


Benj. M. Everhart 1878.

9 volumes.



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AMERICAN ORNITHOLOGY;

OR,

THE NATURAL HISTORY

OF THE

BIRDS OF THE UNITED STATES:

ILLUSTRATED WITH PLATES

Engraved and Colored from Original drawings taken from Nature.

BY ALEXANDER WILSON.

VOL. VIII.

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.....

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PREFACE.

THE patrons of the AMERICAN ORNITHOLOGY are now presented with the eighth volume of this work, which, unfortunately for the interest of science, was left unfinished by its ingenious and indefatigable author. It was the intention of Mr. Wilson to complete the whole in nine volumes; and he was rapidly advancing to a close, when he was suddenly arrested in his honorable and useful career by a mandate from that Power who so often frustrates human purposes; and whose mighty scheme of Providence no created being can comprehend.

The historical part of the present volume was completed and printed off, and all the plates, except one, were engraved, under the superintendence of the author himself. But from the defection of those on whom he had relied for assistance in the coloring of his subjects, and the great difficulty of immediately procuring others competent to the task, this branch of the work did not keep pace with the rest; and hence the publication of the volume has been delayed by causes beyond the control of those on whom, at Mr. Wilson's death, his affairs devolved. But this delay, we trust, has been of benefit to the work, as it enabled us to employ an artist who formerly gained the confidence of the author by his skill, and

attention to the duties assigned him; and who has given assurance of continuing his assistance until the whole is completed. With such a coadjutor, our labours, in this department, will be considerably lightened; and, with deference, we hope that the public will not so readily perceive the absence of that hand whose delicate touches imparted hues and animation to the pictured "denizens of the air," which might almost vie with the interesting originals themselves.

The present volume contains much valuable matter; and when viewed as the last fruit of the philosophical mind of its amiable author, will be doubtless received with no ordinary degree of attention. In it we are presented with correct delineations of the greater part of that interesting and useful tribe that frequent our waters, the genus *Anas*, or the Ducks.* The histories of some are necessarily imperfect, as they are but partially known, and seldom permit an opportunity of investigation. Others, from their habits not exciting much interest, have been too much neglected by naturalists; and the biographer of their simple lives was condemned, however repugnant to his wishes and intentions, to pass them over in a brief and unsatisfactory manner. But the author has had it in his power to confer that justice on a *few*, whose merits have been considered by ornithologists and connoisseurs as of the first order, to which they are fairly entitled; and his faithful narratives, we

* Mr. Wilson omitted the Swan for the want of a good recent specimen. The White-fronted Goose, which inhabits the waters of the Missouri; the Muscovy Duck, which is found in Louisiana, and sometimes as far north as Georgia; and the King Duck, which occasionally visits Boston bay, he never had the good fortune to see.

trust, will amply reward attention ; as neither pains nor expense has been spared to obtain correct information relating to them, which he knew would be justly valued by a discerning and respectable community.

Of the domestic habits of the greater part of the subjects above referred to, the scientific world unfortunately remains in ignorance. Formed by nature with strength of wing capable of supporting immense aerial journies, the Ducks, in the vernal season, impelled by that mysterious principle, vaguely termed instinct, prepare to seek those climes which will afford them an asylum during the important period of incubation ; and where they and their offspring may escape the observation of destructive man. To the dreary regions of the north these wanderers then repair ; each family, probably, occupying those peculiar districts, which had been the heritage of their progenitors for ages ; and which furnish them with an abundance of food particularly adapted to their wants, and to the rearing of their young. In that season, could the zealous naturalist safely tread those unknown shores, what a rich harvest would reward his enterprise and research ! He would there behold, on their own native streams, in all the pride of independence, those various acquaintance whose periodical visits to his section of the globe he never failed to welcome ; he would explore their favorite haunts ; trace the operations of nature in the important work of perpetuating their kind ; note their simple manners before a knowledge of the lords of creation had taught them vigilance and stratagem ; and finally behold them congregating in prodigious multitudes, to prepare, as the season of

night and storms approaches, to migrate to those regions where their wants may continue to be supplied ; and where it seems to be a wise provision of the bountiful Creator, they themselves may contribute to the sustenance and comfort of a portion of the human race. But to such an enterprise Nature has opposed formidable barriers, such as it appears she does not intend that we shall surmount ; thereby intimating to us that she fears to indulge a curiosity which might ultimately prove subversive of her general plan, by subjecting to the insatiable dominion of a *few*, what was kindly intended for the benefit of *all*.

The publication of the eighth volume has been attended with increased expense, as the nature of the figures, and the crowded manner in which the author found himself necessitated to introduce them, in order that nine volumes should comprise the whole of our ornithology, have compelled the artists to devote more time to the faithful discharge of their trust. How well they have succeeded in doing justice to their subjects, it is not necessary for us to declare, as the public, in matters of taste, indulge a right of judging for themselves. But it is proper to state that the present volume was a favorite with its author, and he had formed the resolution of devoting to it a more than ordinary share of his personal attention ; intending thereby to afford to his patrons a proof that there was no falling off from his original elegance ; and to the friends of the arts, and lovers of science, an illustration of what unwearied industry could accomplish, when associated with zeal and talent. Mr. Wilson intended coloring the chief part of the plates himself ; but this design, which sprang from the most re-

finest sense of duty, and so fondly cherished, he did not live to accomplish.

The succeeding volume will be published without delay, the plates for it being all engraved. In that the public may expect a biographical account of Mr. Wilson, compiled from the most authentic materials in the possession of his executors; a complete index to the whole, and a list of subscribers, which will conclude the AMERICAN ORNITHOLOGY.

GEORGE ORD.

Philadelphia, January 19th, 1814.

THE Editor having been authorized by the publisher to revise the volume, he applied himself with zeal to the undertaking; and in order to render the work more useful to the American Ornithological student, he conceived it would be proper to make the following alterations in the nomenclature:

Ardea Ludoviciana	.	.	<i>Ardea leucogaster.</i>
Ardea Americana	.	.	<i>Grus Americana.</i>
Tantalus ruber	.	.	<i>Ibis ruber.</i>
T. albus	.	.	<i>I. albus.</i>
Anas fuligula	.	.	<i>Anas rufitorques.</i>
A. rubidus	.	.	<i>A. Jamaicensis.</i>

The first column contains the names of the original edition.

B. M. EVERHART,
West Chester, Pa.,
1886.

Not to be loaned on any Condition.

The synonymes have been corrected and augmented; and some new matter added, which the Editor hopes will not be found unacceptable to the reader.

GEORGE ORD.

Philadelphia, June 1st, 1824.

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AMERICAN ORNITHOLOGY.

DEMI-EGRET HERON.*

ARDEA LEUCOGASTER.

[Plate LXIV.—Fig. 1.]

LATH. *Syn.* III, p. 88, No. 57.—*Ind. Orn.* p. 694, No. 62.—STEPHENS, *Gen. Zool.* XI, p. 547.—*La Demi-aigrette*, BUFF. VII, p. 378. *Pl. Enl.* 350.—GMEL. *Syst.* I, p. 628, No. 32.—PEALE'S *Museum*, No. 3750.

THIS is a rare and delicately formed species; occasionally found on the swampy river shores of South Carolina, but more frequently along the borders of the Mississippi, particularly below New Orleans. In each of these places it is migratory; and in the latter, as I have been informed, builds its nest on trees, amidst the inundated woods. Its manners correspond very much with those of the Blue Heron. It is quick in all its motions, darting about after its prey with surprising agility. Small fish, frogs, lizards, tadpoles, and various aquatic insects, constitute its principal food.

There is a bird described by Latham in his *General Synopsis*, vol. iii, p. 88, called the *Demi-Egret*,† which, from the account there given, seems to approach near to the present species. It is said to inhabit Cayenne.

* Named in the plate *Louisiana Heron*.

† See also Buffon, vol. vii, p. 378.

Length of the Demi-Egret Heron from the point of the bill to the extremity of the tail twenty-three inches; the long hair-like plumage of the rump and lower part of the back extends several inches farther; the bill is remarkably long, measuring full five inches, of a yellowish green at the base, black towards the point, and very sharp; irides yellow; chin and throat white, dotted with ferruginous and some blue; the rest of the neck is of a light vinous purple, intermixed on the lower part next the breast with dark slate-colored plumage; the whole feathers of the neck are long, narrow and pointed; head crested, consisting first of a number of long narrow purple feathers, and under these seven or eight pendent ones, of a pure white, and twice the length of the former; upper part of the back and wings light slate; lower part of the back and rump white, but concealed by a mass of long unwebbed hair-like plumage, that falls over the tail and tips of the wings, extending three inches beyond them: these plumes are of a dirty purplish brown at the base, and lighten towards the extremities to a pale cream color; the tail is even at the tip, rather longer than the wings, and of a fine slate; the legs and naked thighs greenish yellow; middle claw pectinated; whole lower parts pure white. Male and female alike in plumage, both being crested.

PIED OYSTER-CATCHER.

HÆMATOPUS OSTRALEGUS.[Plate LXIV.—Fig. 2, *Male.*]

Arct. Zool. No. 406.—Gmel. *Syst.* I, p. 694.—LATH. *Ind. Orn.* p. 752. *Gen. Syn.* III, p. 219.—CATESBY, I, 85.—BEWICK, II, 23.—STEPHENS, *Gen. Zool.* vol. XI, p. 494, pl. 36.—*L'Huître*, BUFF. VIII, p. 119, pl. 9. *Pl. Enl. No.* 929.—TEMME. *Man. d'Orn.* p. 531.—PEALE'S *Museum*, No. 4258.

THIS singular species, although nowhere numerous, inhabits almost every seashore, both on the new and old continent, but is never found inland. It is the only one of its genus hitherto discovered, and from the conformation of some of its parts one might almost be led by fancy to suppose, that it had borrowed the eye of the Pheasant, the legs and feet of the Bustard, and the bill of the Woodpecker.

The Oyster-catcher frequents the sandy seabeach of New Jersey, and other parts of our Atlantic coast in summer, in small parties of two or three pairs together. They are extremely shy, and, except about the season of breeding, will seldom permit a person to approach within gunshot. They walk along the shore in a watchful stately manner, at times probing it with their long wedge-like bills in search of small shell-fish. This appears evident on examining the hard sands where they usually resort, which are found thickly perforated with oblong holes two or three inches in depth. The small crabs called *fiddlers*, that burrow in the mud at the bottom of inlets, are frequently the prey of the Oyster-catcher; as are *museles*, spout-fish, and a variety of other shell-fish, and sea insects, with which those shores abound.

The principal food, however, of this bird, according to European writers, and that from which it derives its name, is the oyster, which it is said to watch for, and snatch suddenly from the shells, whenever it surprises them sufficiently open. In search of

these it is reported that it often frequents the oyster beds, looking out for the slightest opening through which it may attack its unwary prey. For this purpose the form of its bill seems very fitly calculated. Yet the truth of these accounts is doubted by the inhabitants of Egg-Harbor, and other parts of our coast, who positively assert that it never haunts such places, but confines itself almost solely to the sands. And this opinion I am inclined to believe correct; having myself uniformly found these birds on the smooth beach bordering the ocean, and on the higher dry and level sands, just beyond the reach of the summer tides. On this last situation, where the dry flats are thickly interspersed with drifted shells, I have repeatedly found their nests, between the middle and twenty-fifth of May. The nest itself is a slight hollow in the sand, containing three eggs, somewhat less than those of a hen, and nearly of the same shape, of a bluish cream color, marked with large roundish spots of black, and others of a fainter tint. In some the ground cream color is destitute of the bluish tint, the blotches larger, and of a deep brown. The young are hatched about the twenty-fifth of May, and sometimes earlier, having myself caught them running along the beach about that period. They are at first covered with down of a grayish color, very much resembling that of the sand, and marked with a streak of brownish black on the back, rump and neck, the breast being dusky, where in the old ones it is black. The bill is at that age slightly bent downwards at the tip, where, like most other young birds, it has a hard protuberance that assists them in breaking the shell; but in a few days afterwards this falls off.* These run along the shore with great ease and swiftness.

* Latham observes, that the young are said to be hatched in about three weeks; and though they are wild when in flocks, yet are easily brought up tame if taken young. "I have known them," says he, "to be thus kept for a long time, frequenting the ponds and ditches during the day, attending the ducks and other poultry to shelter of nights, and not unfrequently to come up of themselves as evening approaches." *Gen. Synop. vol. iii, p. 220.*

The female sits on her eggs only during the night, or in remarkably cold and rainy weather; at other times the heat of the sun and of the sand, which is sometimes great, renders incubation unnecessary. But although this is the case, she is not deficient in care or affection. She watches the spot with an attachment, anxiety and perseverance, that are really surprising, till the time arrives when her little offspring burst their prisons, and follow the guiding voice of their mother. When there is appearance of danger they squat on the sand, from which they are with difficulty distinguished, while the parents make large circuits around the intruder, alighting sometimes on this hand, sometimes on that, uttering repeated cries, and practising the common affectionate stratagem of counterfeited lameness to allure him from their young.

These birds run and fly with great vigor and velocity. Their note is a loud and shrill whistling *wheep—wheep—wheo*, smartly uttered. A flock will often rise, descend, and wheel in air with remarkable regularity, as if drilled to the business, the glittering white of their wings at such times being very conspicuous. They are more remarkable for this on their first arrival in the spring. Some time ago I received a stuffed specimen of the *Oyster-catcher* from a gentleman of Boston, an experienced sportsman, who nevertheless was unacquainted with this bird. He informed me that two very old men to whom it was shown called it a *Hagdel*. He adds, “it was shot from a flock which was first discovered on the beach near the entrance of Boston harbor. On the approach of the gunner they rose and instantly formed in line, like a corps of troops, and advanced in perfect order, keeping well dressed. They made a number of circuits in the air previous to being shot at, but wheeled in line; and the man who fired into the flock, observed that all their evolutions were like a regularly organized military company.”

The Oyster-catcher will not only take to the water when wounded, but can also swim and dive well. This fact I can as-

sert from my own observation, the exploits of one of them, in this way, having nearly cost me my life. On the seabeach of Cape May, not far from a deep and rapid inlet, I broke the wing of one of these birds, and being without a dog, instantly pursued it towards the inlet, which it made for with great rapidity. We both plunged in nearly at the same instant; but the bird eluded my grasp, and I sunk beyond my depth; it was not until this moment that I recollected having carried in my gun along with me. On rising to the surface I found the bird had dived, and a strong ebb current was carrying me fast towards the ocean, encumbered with a gun and all my shooting apparatus; I was compelled to relinquish my bird, and to make for the shore, with considerable mortification, and the total destruction of the contents of my powder-horn. The wounded bird afterwards rose, and swam with great buoyancy out among the breakers.

On the same day I shot and examined three individuals of this species, two of which measured each eighteen inches in length, and thirty-five inches in extent: the other was somewhat less. The bills varied in length, measuring three inches and three quarters, three and a half, and three and a quarter, thinly compressed at the point, very much like that of the Woodpecker tribe, but remarkably narrowed near the base where the nostrils are placed, probably that it may work with more freedom in the sand. This instrument for two-thirds of its length, towards the point, was evidently much worn by digging; its color a rich orange scarlet, somewhat yellowish near the tip; eye large, orbits of the same bright scarlet as the bill, irides brilliant yellow, pupil small, bluish black; under the eye is a small spot of white, and a large bed of the same on the wing-coverts; head, neck, scapulars, rump, wing quills, and tail black; several of the primaries are marked on the outer vanes with a slanting band of white; secondaries white, part of them tipped with black; the whole lower parts of the body, sides of the rump, tail-coverts, and that portion of the tail which they

cover, are pure white; the wings, when shut, cover the whole white plumage of the back and rump; legs and naked part of the thighs pale red; feet three-toed, the outer joined to the middle by a broad and strong membrane, and each bordered with a rough warty edge; the soles of the feet are defended from the hard sand and shells by a remarkably thick and callous warty skin.

On opening these birds the smallest of the three was found to be a male; the gullet widened into a kind of crop; the stomach, or gizzard, contained fragments of shell-fish, pieces of crabs, and of the great king-crab, with some dark brown marine insects. The flesh was remarkably firm and muscular, the skull thick and strong, intended no doubt, as in the Woodpecker tribe, for the security of the brain from the violent concussions it might receive while the bird was engaged in digging. The female and young birds have the back and scapulars of a sooty brownish olive.

Naturalists represent the Oyster-catcher of Europe and that of the United States as one species, though in the markings of their plumage there is a little difference. The tail of the latter is black, whilst that of the former is white, largely tipped with black. Our bird appears to be somewhat larger than the European.

According to Temminck the species which inhabits South America is distinct from ours: he names it *Hæmatopus palliatus*.

HOOPING CRANE.

GRUS AMERICANA.[Plate LXIV.—Fig. 3, *Male*.]

Arct. Zool. No. 339.—CATESBY, I, 75.—LATH. III, p. 42.—*Grus Americana*, BRISS. V, p. 382. *La Grue d'Amérique*, Pl. Enl. 889.—*Ardea Americana*, Ind. Orn. p. 675, No. 6; *A. gigantea*? Id. p. 674, No. 3.—GMEL. *Syst.* I, p. 621, No. 5; Id. 622, No. 11?—PEALE'S *Museum*, No. 3704.

THIS is the tallest and most stately species of all the feathered tribes of the United States; the watchful inhabitant of extensive salt marshes, desolate swamps, and open morasses, in the neighborhood of the sea. Its migrations are regular, and of the most extensive kind, reaching from the shores and inundated tracts of South America to the arctic circle. In these immense periodical journeys they pass at such a prodigious height in the air as to be seldom observed. They have, however, their resting stages on the route to and from their usual breeding places, the regions of the north. A few sometimes make their appearance in the marshes of Cape May, in December, particularly on and near Egg-Island, where they are known by the name of *Storks*. The younger birds are easily distinguished from the rest by the brownness of their plumage. Some linger in these marshes the whole winter, setting out north about the time the ice breaks up. During their stay they wander along the marsh and muddy flats of the seashore in search of marine worms, sailing occasionally from place to place, with a low and heavy flight, a little above the surface; and have at such times a very formidable appearance. At times they utter a loud clear and piercing cry, which may be heard at the distance of two miles. They have also various modulations of this singular note, from the peculiarity of which they derive their name. When

wounded they attack the gunner, or his dog, with great resolution ; and have been known to drive their sharp and formidable bill, at one stroke, through a man's hand.

During winter they are frequently seen in the low grounds and rice plantations of the southern states, in search of grain and insects. On the tenth of February I met with several near the Waccamau river, in South Carolina ; I also saw a flock at the ponds near Louisville, Kentucky, on the twentieth of March. They are extremely shy and vigilant, so that it is with the greatest difficulty they can be shot. They sometimes rise in the air spirally to a great height, the mingled noise of their screaming, even when they are almost beyond the reach of sight, resembling that of a pack of hounds in full cry. On these occasions they fly around in large circles, as if reconnoitring the country to a vast extent for a fresh quarter to feed in. Their flesh is said to be well tasted, no ways savouring of fish. They swallow mice, moles, rats, &c. with great avidity. They build their nests on the ground, in tussocks of long grass, amidst solitary swamps, raise it to more than a foot in height, and lay two pale blue eggs, spotted with brown. These are much larger, and of a more lengthened form, than those of the common hen.

The Cranes are distinguished from the Herons by the comparative baldness of their heads, the broad flag of plumage projecting over the tail, and in general by their superior size. They also differ in their internal organization, particularly in the conformation of the windpipe, which enters the breast bone in a cavity fitted to receive it, and after several turns goes out again at the same place, and thence descends to the lungs. Unlike the Herons, they have not the inner side of the middle claw pectinated ; and, in this species at least, the hind toe is short, scarcely reaching the ground.

The vast marshy flats of Siberia are inhabited by a Crane very much resembling the present, with the exception of the bill and

legs being red; like those of the present, the yearling birds are said also to be tawny.

The Hooping Crane is four feet six inches in length, from the point of the bill to the end of the tail, and when standing erect measures nearly five feet; the bill is six inches long, and an inch and a half in thickness, straight, extremely sharp, and of a yellowish brown color; the irides are yellow; the forehead, whole crown, and checks, are covered with a warty skin thinly interspersed with black hairs; these become more thickly set towards the base of the bill; the hind head is of an ash color; the rest of the plumage pure white, the primaries excepted, which are black; from the root of each wing rise numerous large flowing feathers projecting over the tail and tips of the wings; the uppermost of these are broad, drooping, and pointed at the extremities, some of them are also loosely webbed, their silky fibres curling inwards like those of the Ostrich. They seem to occupy the place of the tertials. The legs and naked part of the thighs are black, very thick and strong; the hind toe seems rarely or never to reach the hard ground, though it may probably assist in preventing the bird from sinking too deep in the mire.

In the first edition of this work our author expresses the conjecture, that the Brown and Ash-colored Crane of Edwards is nothing more than the young of the Hooping Crane. This is an error into which he was led in consequence of never having seen a specimen of the bird in question, which Linnæus names *Ardea Canadensis*, and Brisson *Grus Freti Hudsonis*. Peale's Museum at present contains a fine specimen of the *Grus Canadensis*, which was brought by the naturalists attached to Major Long's exploring party, who ascended the Missouri in the year 1820. Bartram calls this Crane the *Grus pratensis*. It is known to travellers by the name of Sandhill Crane.

LONG-BILLED CURLEW.

NUMENIUS LONGIROSTRIS.

[Plate LXIV.—Fig. 4.]

Numenius arquata, var. *A*, LATH. *Ind. Orn.* p. 710, No. 1.—*Gen. Syn.* III, p. 120, variety.—
PEALE'S *Museum*, No. 3910.

THIS American species has been considered by the naturalists of Europe to be a mere *variety* of their own, notwithstanding its difference of color, and superior length of bill. These differences not being accidental, or found in a few individuals, but common to all, and none being found in America corresponding with that of Europe, we do not hesitate to consider the present as a distinct species, peculiar to this country.

Like the preceding, this bird is an inhabitant of marshes in the vicinity of the sea. It is also found in the interior; where, from its long bill and loud whistling note, it is generally known.

The Curlews appear in the salt marshes of New Jersey about the middle of May, on their way to the north; and in September, on their return from their breeding places. Their food consists chiefly of small crabs, which they are very dexterous at probing for, and pulling out of the holes with their long bills; they also feed on those small sea snails so abundant in the marshes, and on various worms and insects. They are likewise fond of bramble berries, frequenting the fields and uplands in search of this fruit, on which they get very fat, and are then tender and good eating, altogether free from the sedgy taste with which their flesh is usually tainted while they feed in the salt marshes.

The Curlews fly high, generally in a wedge-like form, somewhat resembling certain Ducks; occasionally uttering their loud whistling note, by a dexterous imitation of which a whole flock

may sometimes be enticed within gunshot, while the cries of the wounded are sure to detain them until the gunner has made repeated shots, and great havoc among them.

This species is said to breed in Labrador, and in the neighborhood of Hudson's bay. A few instances have been known of one or two pair remaining in the salt marshes of Cape May all summer. A person of respectability informed me, that he once started a Curlew from her nest, which was composed of a little dry grass, and contained four eggs, very much resembling in size and color those of the Mud-hen, or Clapper Rail. This was in the month of July. Cases of this kind are so rare, that the northern regions must be considered as the general breeding place of this species.

The Long-billed Curlew is twenty-five inches in length, and three feet three inches in extent, and when in good order weighs about thirty ounces ; but individuals differ greatly in this respect ; the bill is eight inches long, nearly straight for half its length, thence curving considerably downwards to its extremity, where it ends in an obtuse knob that overhangs the lower mandible, the color black, except towards the base of the lower mandible, where it is of a pale flesh color ; tongue extremely short, differing in this from the Snipe ; eye dark ; the general color of the plumage above is black, spotted and barred along the edge of each feather with pale brown ; chin, line over the eye and round the same, pale brownish white ; neck reddish brown, streaked with black ; spots on the breast more sparingly dispersed ; belly, thighs and vent pale plain rufous, without any spots ; primaries black on the outer edges, pale brown on the inner, and barred with black ; shaft of the outer one snowy ; rest of the wing pale reddish brown, elegantly barred with undulating lines of black ; tail slightly rounded, of an ashy brown, beautifully marked with herring-bones of black ; legs and naked thighs very pale light blue or lead color, the middle toe connected with the two outer ones, as far as the first joint, by a membrane, and bor-

dered along the sides with a thick warty edge ; lining of the wing dark rufous, approaching a chestnut, and thinly spotted with black. Male and female alike in plumage. The bill continues to grow in length until the second season, when the bird receives its perfect plumage. The stomach of this species is lined with an extremely thick skin, feeling to the touch like the rough hardened palm of a sailor or blacksmith. The intestines are very tender, measuring usually about three feet in length, and as thick as a Swan's quill. On the front, under the skin, there are two thick callosities, which border the upper side of the eye, lying close to the skull. These are common, I believe, to most of the *Tringa* and *Scelopax* tribes, and are probably designed to protect the skull from injury while the bird is probing and searching in the sand and mud.

This species was observed by Lewis and Clarke as high up as the sources of the Missouri. On the 22d of June they found the females were sitting : the eggs, which are of a pale blue, with black specks, were laid upon the bare ground.*

* Hist. of the Exped. vol. I, p. 279, 8vo.

YELLOW-CROWNED HERON.

ARDEA VIOLACEA.

[Plate LXV.—Fig. 1.]

LATH. *Ind. Orn.* p. 690, No. 50; *A. Cayanensis*, *Id.* p. 680, No. 17.—*Gen. Syn.* III, p. 80, No. 46; *Cayenne Night Heron*, *Id.* p. 56, No. 16.—*Le Crabier de Bahama*, BRISS. V, p. 481, 41.—*Crested Bittern*, CATESBY, I, pl. 79.—*Le Crabier gris-de-fer*, BUFF. VII, p. 399; *Le Bihoreau de Cayenne*, *Id.* p. 439. *Pl. Enl.* 899.—*Aret. Zool.* No. 352.—GMEL. *Syst.* I, p. 631, No. 16; *A. Cayennensis*, *Id.* p. 626, No. 31.—PEALE'S *Museum*, No. 3738.

THIS is one of the nocturnal species of the Heron tribe whose manners, place and mode of building its nest, resemble greatly those of the common Night Heron (*Ardea nycticorax*); the form of its bill is also similar. The very imperfect figure and description of this species by Catesby, seems to have led the greater part of European ornithologists astray, who appear to have copied their accounts from that erroneous source, otherwise it is difficult to conceive why they should either have given it the name of *yellow-crowned*, or have described it as being only fifteen inches in length; since the crown of the perfect bird is pure white, and the whole length very near two feet. The name, however, erroneous as it is, has been retained in the present account, for the purpose of more particularly pointing out its absurdity, and designating the species.

This bird inhabits the lower parts of South Carolina, Georgia, and Louisiana, in the summer season; reposing during the day among low swampy woods, and feeding only in the night. It builds in societies, making its nest with sticks among the branches of low trees, and lays four pale blue eggs. The species is not numerous in Carolina, which, with its solitary mode of life, makes this bird but little known there. It abounds on the Bahama islands, where it also breeds, and great numbers of the young, as



Drawn from Nature by A. Wilson
 1. Yellow-crowned Heron. 2. Great Heron. 3. American Bittern 4. Least Bittern
 Engraved by G. Harris



we are told, are yearly taken for the table, being accounted in that quarter excellent eating. This bird also extends its migrations into Virginia, and even farther north; one of them having been shot a few years ago on the borders of Schuylkill below Philadelphia.

The food of this species consists of small fish, crabs and lizards, particularly the former; it also appears to have a strong attachment to the neighborhood of the ocean.

The Yellow-crowned Heron is twenty-two inches in length, from the point of the bill to the end of the tail; the long flowing plumes of the back extend four inches farther; breadth from tip to tip of the expanded wings thirty-four inches; bill black, stout, and about four inches in length, the upper mandible grooved exactly like that of the common Night Heron; lores pale green; irides fiery red; head and part of the neck black, marked on each cheek with an oblong spot of white; crested crown and upper part of the head white, ending in two long narrow tapering plumes of pure white, more than seven inches long; under these are a few others of a blackish color; rest of the neck and whole lower parts fine ash, somewhat whitish on that part of the neck where it joins the black; upper parts a dark ash, each feather streaked broadly down the centre with black, and bordered with white; wing quills deep slate, edged finely with white; tail even at the end, and of the same ash color; wing-coverts deep slate, broadly edged with pale cream; from each shoulder proceed a number of long loosely webbed tapering feathers, of an ash color, streaked broadly down the middle with black, and extending four inches or more beyond the tips of the wings; legs and feet yellow; middle claw pectinated. Male and female, as in the common Night Heron, alike in plumage.

GREAT HERON.

ARDEA HERODIAS.

[Plate LXV.—Fig. 2.]

Le Héron hupé de Virginie, BRISS. V, p. 416, 10; *Le Héron de la Baye de Hudson*, Id. 407, No. 7.—*Le Grand Héron*, BUFF. VII, p. 385; Id. p. 386.—*Larger crested Heron*, CATESBY, App. pl. 10, fig. 1.—LATH. Syn. III, p. 85, No. 51; *Red-shouldered Heron*, Id. No. 52.—*Aret. Zool.* No. 341, 342.—*Ind. Orn.* p. 692, No. 56; *A. Hudsonias*, No. 57.—*Ash-colored Heron from North America*, EDWARDS, pl. 135.—GMEL. Syst. I, p. 630, No. 15; p. 632, No. 18.—PEALE'S Museum, No. 3629; Young, 3631.

THE history of this large and elegant bird having been long involved in error and obscurity,* I have taken more than common pains to present a faithful portrait of it in this place; and to add to that every fact and authentic particular relative to its manners which may be necessary to the elucidation of the subject.

The Great Heron is a constant inhabitant of the Atlantic coast from New York to Florida; in deep snows and severe weather seeking the open springs of the cedar and cypress swamps, and the muddy inlets occasionally covered by the tides. On the higher inland parts of the country, beyond the mountains, they are less numerous; and one which was shot in the upper parts of New Hampshire, was described to me as a great curiosity. Many of their breeding places occur in both Carolinas, chiefly in the vicinity of the sea. In the lower parts of New Jersey they have also their favorite places for building, and rearing their young. These

* Latham says of this species, that "all the upper parts of the body, the belly, tail and legs, are *brown*;" and this description has been repeated by every subsequent compiler. Buffon, with his usual eloquent absurdity, describes the Heron as "exhibiting the picture of wretchedness, anxiety and indigence; condemned to struggle perpetually with misery and want; sickened with the restless cravings of a famished appetite;" a description so ridiculously untrue, that, were it possible for these birds to comprehend it, it would excite the risibility of the whole tribe.

are generally in the gloomy solitudes of the tallest cedar swamps, where, if unmolested, they continue annually to breed for many years. These swamps are from half a mile to a mile in breadth, and sometimes five or six in length, and appear as if they occupied the former channel of some choked up river, stream, lake, or arm of the sea. The appearance they present to a stranger is singular: a front of tall and perfectly straight trunks, rising to the height of fifty or sixty feet without a limb, and crowded in every direction, their tops so closely woven together as to shut out the day, spreading the gloom of a perpetual twilight below. On a nearer approach they are found to rise out of the water, which, from the impregnation of the fallen leaves, and roots of the cedars, is of the color of brandy. Amidst this bottom of congregated springs, the ruins of the former forest lie piled in every state of confusion. The roots, prostrate logs, and in many places the water, are covered with green mantling moss; while an undergrowth of laurel, fifteen or twenty feet high, intersects every opening so completely, as to render a passage through laborious and harassing beyond description: at every step you either sink to the knees, clamber over fallen timber, squeeze yourself through between the stubborn laurels, or plunge to the middle in ponds made by the uprooting of large trees, and which the moss concealed from observation. In calm weather the silence of death reigns in these dreary regions; a few interrupted rays of light shoot across the gloom; and unless for the occasional hollow screams of the Herons, and the melancholy chirping of one or two species of small birds, all is silence, solitude and desolation. When a breeze rises, at first it sighs mournfully through the tops; but as the gale increases, the tall mast-like cedars wave like fishing-poles, and rubbing against each other, produce a variety of singular noises, that, with the help of a little imagination, resemble shrieks, groans, or the growling of beasts of prey.

On the tops of the tallest of these cedars the Herons construct their nests, ten or fifteen pair sometimes occupying a particular part of the swamp. The nests are large, formed of sticks, and lined with twigs, each occupies the top of a single tree. The eggs are generally four, of an oblong pointed form, larger than those of a hen, and of a light greenish blue, without any spots. The young are produced about the middle of May, and remain on the trees until they are full as heavy as the old ones, being extremely fat, before they are able to fly. They breed but once in the season. If disturbed in their breeding place, the old birds fly occasionally over the spot, sometimes honking like a Goose, sometimes uttering a coarse hollow grunting noise like that of a hog, but much louder.

The Great Heron is said to be fat at the full moon, and lean at its decrease; this might be accounted for by the fact of their fishing regularly by moonlight through the greater part of the night, as well as during the day; but the observation is not universal, for at such times I have found some lean as well as others fat. The young are said to be excellent for the table, and even the old birds, when in good order, and properly cooked, are esteemed by many.

The principal food of the Great Heron is fish, for which he watches with the most unwearied patience, and seizes them with surprising dexterity. At the edge of a river, pond, or the seashore, he stands fixed and motionless, sometimes for hours together. But his stroke is as quick as thought, and as sure as fate to the first luckless fish that approaches within his reach; these he sometimes beats to death, and always swallows head foremost, such being their uniform position in the stomach. He is also an excellent mouser, and of great service to our meadows in destroying the short-tailed or meadow mouse, so injurious to the banks. He also feeds eagerly on grasshoppers, various winged insects, particularly dragon-flies, which he is very expert at striking; and also eats the

seeds of that species of nymphæ usually ealled splatter-docks, so abundant along our fresh-water ponds and rivers.

The Heron has great powers of wing, flying sometimes very high, and to a great distance ; his neck doubled, his head drawn in, and his long legs stretched out in a right line behind him, appearing like a tail, and probably serving the same rudder-like office. When he leaves the seacoast, and traces on wing the courses of the creeks or rivers upwards, he is said to prognosticate rain ; when downwards, dry weather. He is most jealously vigilant and watchful of man, so that those who wish to succeed in shooting the Heron, must approach him entirely unseen, and by stratagem. The same inducements, however, for his destruction do not prevail here as in Europe. Our seashores and rivers are free to all for the amusement of fishing. Luxury has not yet constructed her thousands of fishponds, and surrounded them with steel-traps, spring-guns, and Heron-snares.* In our vast fens, meadows and sea marshes, this stately bird roams at pleasure, feasting on the never-failing magazines of frogs, fish, seeds and insects with which they abound, and of which he probably considers himself the sole lord and proprietor. I have several times seen the

* " The Heron," says an English writer, " is a very great devourer of fish, and does more mischief in a pond than an otter. People who have kept Herons have had the curiosity to number the fish they feed them with, into a tub of water, and counting them again afterwards, it has been found that they will eat up fifty moderate dace and roaches in a day. It has been found that in carp ponds visited by this bird, one Heron will eat up a thousand store carp in a year ; and will hunt them so close as to let very few escape. The readiest method of destroying this mischievous bird is by fishing for him in the manner of pike, with a baited hook. When the haunt of the Heron is found out, three or four small roach, or dace, are to be procured, and each of them is to be baited on a wire, with a strong hook at the end, entering the wire just at the gills, and letting it run just under the skin to the tail ; the fish will live in this manner for five or six days, which is a very essential thing ; for if it be dead, the Heron will not touch it. A strong line is then to be prepared of silk and wire twisted together, and is to be about two yards long ; tie this to the wire that holds the hook, and to the other end of it there is to be tied a stone of about a pound weight ; let three or four of these baits be sunk in different shallow parts of the pond, and in a night or two's time the Heron will not fail to be taken with one or other of them."

Bald Eagle attack and tease the Great Heron ; but whether for sport, or to make him disgorge his fish, I am uncertain.

The common Heron of Europe (*Ardea major*) very much resembles the present, and might, as usual, have probably been ranked as the original stock, of which the present is a mere degenerated species, were it not that the American is greatly superior in size and weight to the European species, the former measuring four feet four inches, and weighing upwards of seven pounds ; the latter three feet three inches, and rarely weighing more than four pounds. Yet with the exception of size, and the rust-colored thighs of the present, they are extremely alike. The common Heron of Europe, however, is not an inhabitant of the United States.

The Great Heron does not receive his full plumage during the first season, nor until the summer of the second. In the first season the young birds are entirely destitute of the white plumage of the crown, and the long pointed feathers of the back, shoulders, and breast. In this dress I have frequently shot them in autumn. But in the third year, both males and females have assumed their complete dress, and, contrary to all the European accounts which I have met with, both are then so nearly alike in color and markings, as scarcely to be distinguished from each other ; both having the long flowing crest, and all the ornamental white pointed plumage of the back and breast. Indeed this sameness in the plumage of the males and females, when arrived at their perfect state, is a characteristic of the whole of the genus with which I am acquainted. Whether it be different with those of Europe, or that the young and imperfect birds have been hitherto mistaken for females I will not pretend to say, tho I think the latter conjecture highly probable, as the Night Raven (*Ardea nycticorax*) has been known in Europe for several centuries, and yet in all their accounts the sameness of the colors and plumage of the male and female of that bird is nowhere mentioned ; on the contrary, the young or yearling bird has been universally described as the female.

On the eighteenth of May I examined, both externally and by dissection, five specimens of the Great Heron, all in complete plumage, killed in a cedar swamp near the head of Tuckahoe river, in Cape May county, New Jersey. In this case the females could not be mistaken, as some of the eggs were nearly ready for exclusion.

Length of the Great Heron four feet four inches from the point of the bill to the end of the tail, and to the bottom of the feet five feet four inches; extent six feet; bill eight inches long, and one inch and a quarter in width, of a yellow color, in some blackish on the ridge, extremely sharp at the point, the edges also sharp, and slightly serrated near the extremity; space round the eye from the nostril, a light purplish blue; irides orange, brightening into yellow where they join the pupil; forehead and middle of the crown white, passing over the eye; sides of the crown and hind-head deep slate or bluish black, and elegantly crested, the two long tapering black feathers being full eight inches in length; chin, cheeks, and sides of the head, white for several inches; throat white, thickly streaked with double rows of black; rest of the neck brownish ash, from the lower part of which shoot a great number of long narrow pointed white feathers that spread over the breast and reach nearly to the thighs; under these long plumes the breast itself, and middle of the belly are of a deep blackish slate, the latter streaked with white; sides blue ash, vent white; thighs and ridges of the wings a dark purplish rust color; whole upper parts of the wings, tail, and body, a fine light ash, the last ornamented with a profusion of long narrow white tapering feathers, originating on the shoulders or upper part of the back, and falling gracefully over the wings; primaries very dark slate, nearly black; naked thighs brownish yellow; legs brownish black, tintured with yellow, and netted with seams of whitish; in some the legs are nearly black. Little difference could be perceived between the plumage of the

males and females ; the latter were rather less, and the long pointed plumes of the back were not quite so abundant.

The young birds of the first year have the whole upper part of the head of a dark slate ; want the long plumes of the breast and back ; and have the body, neck, and lesser coverts of the wings, considerably tinged with ferruginous.

On dissection the gullet was found of great width, from the mouth to the stomach, which has not the two strong muscular coats that form the gizzard of some birds ; it was more loose, of considerable and uniform thickness throughout, and capable of containing nearly a pint ; it was entirely filled with fish, among which were some small eels, all placed head downwards ; the intestines measured nine feet in length, were scarcely as thick as a goose-quill, and incapable of being distended : so that the vulgar story of the Heron swallowing eels, which passing suddenly through him are repeatedly swallowed, is absurd. On the external coat of the stomach of one of these birds, opened soon after being shot, something like a blood vessel lay in several meandering folds, enveloped in a membrane, and closely adhering to the surface. On carefully opening this membrane it was found to contain a large round living worm, eight inches in length ; another of like length was found coiled in the same manner on another part of the external coat. It may also be worthy of notice, that the intestines of the young birds of the first season, killed in the month of October, when they were nearly as large as the others, measured only six feet four or five inches, those of the full grown ones from eight to nine feet in length.

This species is common in the vicinity of the river St. John, in East Florida, during the winter ; becomes very fat, and is excellent eating.

AMERICAN BITTERN.

ARDEA MINOR.

[Plate LXV.—Fig. 3.]

Le Butor de la Baye de Hudson, BRISS. V, p. 449, 25.—BUFF. VII, p. 430.—EDW. 136.—
LATH. *Syn.* III, p. 58, var. *A.*—*Ardea Stellaris*, var. *A.*, GMEL. *Syst.* I, p. 636.—*Arct.*
Zool. No. 357.—PEALE'S *Museum*, No. 3727.

THIS is another nocturnal species, common to all our sea and river marshes, though nowhere numerous; it rests all day among the reeds and rushes, and unless disturbed, flies and feeds only during the night. In some places it is called the Indian Hen; on the seacoast of New Jersey it is known by the name of *Dunkadoo*, a word probably imitative of its common note. They are also found in the interior, having myself killed one at the inlet of the Seneca Lake, in October. It utters at times a hollow guttural note among the reeds; but has nothing of that loud booming sound for which the European Bittern is so remarkable. This circumstance, with its great inferiority of size, and difference of marking, sufficiently prove them to be two distinct species, although hitherto the present has been classed as a mere *variety* of the European Bittern. These birds, we are informed, visit Severn river, at Hudson's Bay, about the beginning of June; make their nests in swamps, laying four cinereous green eggs among the long grass. The young are said to be at first black.

These birds, when disturbed, rise with a hollow *kwa*, and are then easily shot down, as they fly heavily. Like other night birds their sight is most acute during the evening twilight; but their hearing is at all times exquisite.

The American Bittern is twenty-seven inches long, and three feet four inches in extent; from the point of the bill to the extre-

mity of the toes it measures three feet; the bill is four inches long, the upper mandible black, the lower greenish yellow; lores and eyelids yellow; irides bright yellow; upper part of the head flat, and remarkably depressed; the plumage there is of a deep blackish brown, long behind and on the neck, the general color of which is a yellowish brown shaded with darker; this long plumage of the neck the bird can throw forward at will; when irritated, so as to give him a more formidable appearance; throat whitish, streaked with deep brown; from the posterior and lower part of the auriculars a broad patch of deep black passes diagonally across the neck, a distinguished characteristic of this species; the back is deep brown, barred and mottled with innumerable specks and streaks of brownish yellow; quills black, with a leaden gloss, and tipped with yellowish brown; legs and feet yellow, tinged with pale green; middle claw pectinated; belly light yellowish brown, streaked with darker; vent plain; thighs sprinkled on the outside with grains of dark brown; male and female nearly alike, the latter somewhat less. The tail contains twelve feathers.

In the Supplement to the Ornithological Dictionary of Montagu, a Heron is figured and described under the name of *Ardea lentiginosa*; and is said to have been shot in England. Stephens refers this bird to our Bittern; and Temminck sanctions this reference by quoting the former as a synonyme of the latter. We do not hesitate to assert that Montagu's Heron is *not* our species, which it little resembles. The figure shows it to be a young bird; and one should suppose that the specimen in the British museum would enable the English naturalists to identify the species at home, without recurring to a foreign species, which it is not even probable could have been an accidental wanderer so far from its native shores.

LEAST BITTERN.

ARDEA EXILIS.[Plate LXV.—Fig. 4, *Male.*]

Minute Bittern, LATH. *Syn.* III, p. 66, No. 28.—*Ind. Orn.* p. 683, No. 29.—GMEL. *Syst.* I, p. 645, No. 83.—PEALE'S *Museum*, No. 3814; *Female*, 3815.

THIS is the smallest known species of the whole tribe. It is commonly found in fresh water meadows, and rarely visits the salt marshes. One shot near Great Egg-Harbor was presented to me as a very uncommon bird. In the meadows of Schuylkill and Delaware, below Philadelphia, a few of these birds breed every year; making their nests in the thick tussocks of grass, in swampy places. When alarmed they seldom fly far, but take shelter among the reeds or long grass. They are scarcely ever seen exposed, but skulk during the day; and, like the preceding species, feed chiefly in the night.

This little creature measures twelve inches in length, and sixteen in extent; the bill is more than two inches and a quarter long, yellow, ridged with black, and very sharp pointed; space round the eye pale yellow; irides bright yellow; whole upper part of the crested head, the back, scapulars and tail, very deep slate, reflecting slight tints of green; throat white, here and there tinged with buff; hind part of the neck dark chestnut bay, sides of the neck, cheeks, and line over the eye, brown buff; lesser wing-coverts the same; greater wing-coverts chestnut, with a spot of the same at the bend of the wing, the primary coverts are also tipped with the same; wing quills dark slate; breast white, tinged with ochre, under which lie a number of blackish feathers; belly and vent white; sides pale ochre; legs greenish on the shins, hind part and feet yellow; thighs feathered to within a quarter of an

inch of the knees ; middle claw peetinated ; toes tinged with pale green ; feet large, the span of the foot measuring two inches and three quarters. Male and female nearly alike in color. The young birds are brown on the crown and back. The stomach of the above described was filled with small fish ; and the intestines, which were extremely slender, measured in length about four feet.

The Least Bittern is also found in Jamaica, and several of the West India Islands.

In the month of September this species becomes very fat, and is then excellent eating.



1. *Flamingo* 2. *Tringa* 3. *White Ibis* 4. *White Ibis*

WOOD IBIS.

TANTALUS LOCULATOR.

[Plate LXVI.—Fig. 1.]

GMEL. *Syst.* p. 647.—*Le grand Courly d'Amérique*, BRISS. V, p. 335, 8.—*Couricaca*, BUFF. VII, p. 276. *Pl. Enl.* 868.—*Wood Pelican*, CATESBY, I, 81.—*Arct. Zool.* No. 360.—LATH. *Syn.* III, p. 104.—*Ind. Orn.* p. 702.—PEALE'S *Museum*, No. 3832.

THE Wood Ibis inhabits the lower parts of Louisiana, Carolina, and Georgia; is very common in Florida, and extends as far south as Cayenne, Brasil, and various parts of South America. In the United States it is migratory; but has never, to my knowledge, been found to the north of Virginia. Its favorite haunts are watery savannahs, and inland swamps, where it feeds on fish and reptiles. The French inhabitants of Louisiana esteem it good eating.

With the particular manners of this species I am not personally acquainted; but the following characteristic traits are given of it by Mr. William Bartram, who had the best opportunities of noting them.

“This solitary bird,” he observes, “does not associate in flocks; but is generally seen alone, commonly near the banks of great rivers, in vast marshes or meadows, especially such as are covered by inundations, and also in the vast deserted rice plantations; he stands alone, on the topmost limb of tall dead cypress trees, his neck contracted or drawn in upon his shoulders, and his beak resting like a long scythe upon his breast; in this pensive posture, and solitary situation, they look extremely grave, sorrowful and melancholy, as if in the deepest thought. They are never seen on the seacoast, and yet are never found at a great distance

from it. They feed on serpents, young alligators, frogs, and other reptiles.”*

The figure of this bird given in the plate was drawn from a very fine specimen, sent from Georgia by Stephen Elliot, esq., of Beaufort, South Carolina; its size and markings were as follow :

Length three feet two inches; bill nearly nine inches long, straight for half its length, thence curving downwards to the extremity, and full two inches thick at the base, where it rises high in the head, the whole of a brownish horn color; the under mandible fits into the upper in its whole length, and both are very sharp edged; face and naked head, and part of the neck, dull greenish blue, wrinkled; eye large, seated high in the head; irides dark red; under the lower jaw is a loose corrugated skin, or pouch, capable of containing about half a pint; whole body, neck and lower parts, white; quills dark glossy green and purple; tail about two inches shorter than the wings, even at the end, and of a deep and rich violet; legs and naked thighs dusky green; feet and toes yellowish, sprinkled with black; feet almost semipalmated, and bordered to the claws with a narrow membrane; some of the greater wing-coverts are black at the root, and shafted with black; plumage on the upper ridge of the neck generally worn, as in the present specimen, with rubbing on the back, while in its common position of resting its bill on its breast, in the manner of the White Ibis. (See fig. 3.)

The female has only the head and chin naked; both are subject to considerable changes of color when young; the body being found sometimes blackish above, the belly cinereous, and spots of black on the wing-coverts; all of which, as the birds advance in age, gradually disappear, and leave the plumage of the body, &c. as has been described.

* Travels, &c. p. 150.

SCARLET IBIS.

IBIS RUBER.

[Plate LXVI.—Fig. 2.]

LATH. III, p. 106; *Brown Ibis*, *Id.* p. 110, No. 8.—*Tantalus ruber*, *Ind. Orn.* p. 703, No. 2; *T. fuscus*, *Id.* p. 705, No. 8.—GMEL. *Syst.* I, p. 651, No. 5, No. 7.—*Le Courly rouge du Brésil*, BRISS. V, p. 344, pl. 29, fig. 1, 2; *Le Courly brun du Brésil*, *Id.* p. 341.—BUFF. VIII, p. 35, 42.—*Red Curlew*, CATESBY, I, 84; *Brown Curlew*, *Id.* 83, young.—*Arct. Zool.* No. 361, 362.—*Courly rouge du Brésil, de l'age de deux ans*, *Pl. Enl.* 80; *Id. de l'age de trois ans*, 81.—PEALE'S *Museum*, No. 3864; female, 3865.

THIS beautiful bird is found in the most southern parts of Carolina; also in Georgia and Florida, chiefly about the seashore and its vicinity. In most parts of America within the tropics, and in almost all the West India Islands, it is said to be common; also in the Bahamas. Of its manners little more has been collected than that it frequents the borders of the sea, and shores of the neighboring rivers, feeding on small fry, shell-fish, sea worms and small crabs. It is said frequently to perch on trees, sometimes in large flocks; but to lay its eggs on the ground, on a bed of leaves. The eggs are described as being of a greenish color; the young when hatched black, soon after gray, and before they are able to fly white, continuing gradually to assume their red color until the third year, when the scarlet plumage is complete. It is also said that they usually keep in flocks, the young and old birds separately. They have frequently been domesticated. One of them which lived for some time in the Museum of this city, was dexterous at catching flies, and most usually walked about, on that pursuit, in the position in which it is represented in the plate.

The Scarlet Ibis measures twenty-three inches in length, and thirty-seven in extent; the bill is five inches long, thick, and somewhat of a square form at the base, gradually bent downwards, and

sharply ridged, of a black color, except near the base, where it inclines to red; irides dark hazel; the naked face is finely wrinkled, and of a pale red; chin also bare and wrinkled for about an inch; whole plumage a rich glowing scarlet, except about three inches of the extremities of the four outer quill feathers, which are of a deep steel blue; legs and naked part of the thighs pale red; the three anterior toes united by a membrane as far as the first joint.

Whether the female differs in the color of her plumage from the male, or what changes both undergo during the first and second years, I am unable to say from personal observation. Being a scarce species with us, and only found on our most remote southern shores, a sufficient number of specimens have not been procured to enable me to settle this matter with sufficient certainty.

It will be perceived in the following article that the author leaned to the opinion of the White Ibis and the present being identical. In this opinion the editor would concur; but as he cannot, at this time, have access to recent specimens, in order to determine the point, he will permit the name of *albus* to remain, although fully persuaded of the species being nominal.

It would appear that this species inhabits the western coast of America. In the Appendix to the History of Lewis and Clark's Expedition, vol. II, p. 514, under the date of March 7, the Journalist says, "A bird of a scarlet color, as large as a common pheasant, with a long tail, has returned; one of them was seen to-day near the fort." As all long-legged birds fly with their legs in a horizontal position, the legs of that above mentioned must have been mistaken for a tail.

WHITE IBIS.

IBIS ALBUS.

[Plate LXVI.—Fig. 3.]

Le Courly blanc du Brésil, BRISS. V, p. 339, 10.—BUFF. VIII, p. 41. *Courly blanc d'Amérique*, Pl. Enl. 915.—*White Curlew*, CATESBY, I, pl. 82.—LATH. Syn. III, p. 111, No. 9.—*Tantalus albus*, Ind. Orn. p. 705, No. 9.—GMEL. Syst. I, p. 651, No. 6.—Arct. Zool. No. 363.

THIS species bears in every respect, except that of color, so strong a resemblance to the preceding, that I have been almost induced to believe it the same, in its white or imperfect stage of color. The length and form of the bill, the size, conformation, as well as color of the legs, the general length and breadth, and even the steel blue on the four outer quill feathers, are exactly alike in both. These suggestions, however, are not made with any certainty of its being the same; but as circumstances which may lead to a more precise examination of the subject hereafter.

I found this species pretty numerous on the borders of lake Ponchartrain, near New Orleans, in the month of June, and also observed the Indians sitting in market with strings of them for sale. I met with them again on the low keys or islands off the peninsula of Florida. Mr. Bartram observes that “they fly in large flocks or squadrons, evening and morning, to and from their feeding places or roosts, and are usually called Spanish Curlews. They feed chiefly on cray fish, whose cells they probe, and with their strong pinching bills drag them out.” The low islands above mentioned abound with these creatures and small crabs, the ground in some places seeming alive with them, so that the rattling of their shells against one another was incessant. My venerable friend, in his observations on these birds adds, “It is a pleasing sight at times of high winds, and heavy thunder storms,

to observe the numerous squadrons of these Spanish Curlews, driving to and fro, turning and tacking about high up in the air, when by their various evolutions in the different and opposite currents of the wind, high in the clouds, their silvery white plumage gleams and sparkles like the brightest crystal, reflecting the sunbeams that dart upon them between the dark clouds."

The White Ibis is twenty-three inches long, and thirty-seven inches in extent; bill formed exactly like that of the scarlet species, of a pale red, blackish towards the point; face a reddish flesh color and finely wrinkled; irides whitish; whole plumage pure white, except about four inches of the tips of the four outer quill feathers, which are of a deep and glossy steel blue; legs and feet pale red, webbed to the first joint; the tail is composed of twelve feathers.

These birds I frequently observed standing on the dead limbs of trees, and on the shore, resting on one leg, their body in an almost perpendicular position, as represented in the figure, the head and bill resting on the breast. This appears to be its most common mode of resting, and perhaps sleeping, as in all those which I examined the plumage on the upper ridge of the neck, and upper part of the back, was evidently worn by this habit. The same is equally observable on the neck and back of the Wood Ibis.

The present species rarely extends its visits north of North Carolina, and even in that state is only seen for a few weeks towards the end of summer. In Florida they are common; but seldom remove to any great distance from the sea.

RED FLAMINGO.

PHOENICOPTERUS RUBER.

[Platc LXVI.—Fig. 4.]

GMEL. *Syst.* I, p. 612.—*Le Flamant*, BRISS. VI, p. 532, pl. 47, fig. 1.—BUFF. VIII, p. 475, pl. 39. *Pl. Enl.* 63.—LATH. *Syn.* III, p. 299, pl. 93.—*Ind. Orn.* p. 788.—*Arct. Zool.* No. 422.—CATESBY, I, pl. 73, 74.—TEMM. *Man. d'Orn.* p. 587.—PEALE'S *Museum*, No. 3545, bird of the first year; No. 3546, bird of the second year.

THIS very singular species being occasionally seen on the southern frontiers of the United States, and on the peninsula of East Florida, where it is more common, has a claim to a niche in our Ornithological Museum, although the author regrets that from personal observation he can add nothing to the particulars of its history, already fully detailed in various European works. From the most respectable of these, the Synopsis of Dr. Latham, he has collected such particulars as appear authentic and interesting.

“ This remarkable bird has the neck and legs in a greater disproportion than any other bird, the length from the end of the bill to that of the tail is four feet two or three inches, but to the end of the claws measures sometimes more than six feet. The bill is four inches and a quarter long, and of a construction different from that of any other bird; the upper mandible very thin and flat, and somewhat moveable; the under thick, both of them bending downwards from the middle; the nostrils are linear, and placed in a blackish membrane; the end of the bill as far as the bend is black, from thence to the base reddish yellow, round the base quite to the eye covered with a flesh colored cere; the neck is slender, and of a great length; the tongue large, fleshy, filling the cavity of the bill, furnished with twelve or more hooked papillæ on each side, turning backwards; the tip a sharp cartilaginous substance. The

bird when in full plumage is wholly of a most deep scarlet, (those of Africa said to be the deepest,) except the quills, which are black; from the base of the thigh to the claws measures thirty-two inches, of which the feathered part takes up no more than three inches; the bare part above the knee thirteen inches, and from thence to the claws sixteen; the color of the bare parts is red, and the toes are furnished with a web as in the Duck genus; but is deeply indented. *The legs are not straight, but slightly bent, the shin rather projecting.*

“These birds do not gain their full plumage till the third year. In the first they are of a grayish white for the most part; the second of a clearer white, tinged with red, or rather rose color; but the wings and scapulars are red; in the third year a general glowing scarlet manifests itself throughout; the bill and legs also keep pace with the gradation of color in the plumage, these parts changing to their colors by degrees as the bird approaches to an adult state.

“Flamingoes prefer a warm climate, in the old continent not often met with beyond forty degrees north or south. Every where seen on the African coast, and adjacent isles, quite to the cape of Good Hope,* and now and then on the coasts of Spain,† Italy, and those of France lying in the Mediterranean sea; being at times met with at Marsilles, and for some way up the Rhone. In some seasons frequents Aleppo,‡ and parts adjacent. Seen also on the Persian side of the Caspian sea, and from thence along the western coast as far as the Wolga; though this at uncertain times, and chiefly in considerable flocks, coming from the north coast mostly in October and November; but so soon as the wind changes they totally disappear.¶ They breed in the Cape Verd isles, particularly

* In Zec Coow river. Phil. Trans. Once plenty in the Isle of France. Voy. to Mauritius, p. 66.

† About Valencia, in the lake Albufere. Dillon's Trav. p. 374.

‡ Russel's Aleppo, p. 69.

¶ Decouv. Russ. ii, p. 248.

in that of Sal.* The nest is of a singular construction, made of mud, in shape of a hillock, with a cavity at top ; in this the female lays generally two white eggs,† of the size of those of a Goose, but more elongated. The hillock is of such a height as to admit of the bird's sitting on it conveniently, or rather standing, as the legs are placed one on each side at full length.§ The young cannot fly till full grown, but run very fast.

“ Flamingoes, for the most part, keep together in flocks ; and now and then are seen in great numbers together, except in breeding time. Dampier mentions having, with two more in company, killed fourteen at once ; but this was effected by secreting themselves ; for they are very shy birds, and will by no means suffer any one to approach openly near enough to shoot them.¶ Kolben observes that they are very numerous at the Cape, keeping in the day on the borders of the lakes and rivers, and lodging themselves of nights in the long grass on the hills. They are also common to various places in the warmer parts of America, frequenting the same latitudes as in other quarters of the world ; being met with in Peru, Chili, Cayenne,** and the coast of Brasil, as well as the various islands of the West Indies. Sloane found them in Jamaica ; but particularly at the Bahama Islands, and that of Cuba, where they breed. When seen at a distance they appear as a regiment of soldiers, being arranged alongside of one another, on the borders of the rivers, searching for food, which chiefly consists of small fish,†† or the eggs of them, and of water insects, which they search after by plunging in the bill and part of the head ;

* Damp. Voy. i, p. 70.

† They never lay more than three, and seldom fewer. Phil. Trans.

§ Sometimes will lay the eggs on a projecting part of a low rock, if it be placed sufficiently convenient so as to admit of the legs being placed one on each side. Linn.

¶ Davies talks of the gunner disguising himself in an ox hide, and by this means getting within gunshot. Hist. Barbadoes. p. 88.

** Called there by the name of Tococo.

†† Small shell fish. Gesner.

from time to time trampling with their feet to muddy the water, that their prey may be raised from the bottom. In feeding are said to twist the neck in such a manner that the upper part of the bill is applied to the ground;* during this one of them is said to stand sentinel, and the moment he sounds the alarm, the whole flock take wing. This bird when at rest stands on one leg, the other being drawn up close to the body, with the head placed under the wing on that side of the body it stands on.

“ The flesh of these birds is esteemed pretty good meat ; and the young thought by some equal to that of a Partridge ;† but the greatest dainty is the tongue, which was esteemed by the ancients an exquisite morsel.§ Are sometimes caught young and brought up tame ; but are ever impatient of cold, and in this state will seldom live a great while, gradually losing their color, flesh and appetite ; and dying for want of that food which in a state of nature, at large, they were abundantly supplied with.”

* Linnæus. Brisson.

† Commonly fat and accounted delicate. Davies's Hist. Barbad. p. 88. The inhabitants of Provence always throw away the flesh, as it tastes fishy, and only make use of the feathers as ornaments to other birds at particular entertainments. Dillon's Trav. p. 374.

‡ See Plin. IX, cap. 48.





Given from Nature by A. Ward

SURF DUCK.

ANAS PERSPICILLATA.[Plate LXVII.—Fig. 1, *Male.*]

GMEL. *Syst.* I, p. 524, No. 25.—*La grande Macreuse de la Baye de Hudson*, BRISS. VI, p. 425, 30.—*La Macreuse à large bec*, BUFF. IX, p. 244. *Pl. Enl.* 995.—EDW. *pl.* 155.—LATH. *Syn.* III, p. 479.—*Ind. Orn.* p. 847, No. 42.—*Phil. Trans.* LXII, p. 417.—*Black Duck*, *Arct. Zool.* No. 483.—*Canard Marchand*, TEMM. *Man. d'Orn.* p. 853.—PEALE'S *Museum*, No. 2788; *female*, 2789.

THIS Duck is peculiar to America, and altogether confined to the shores and bays of the sea, particularly where the waves roll over the sandy beach. Their food consists principally of those small bivalve shell-fish already described, spout-fish, and others that lie in the sand near its surface. For these they dive almost constantly; and the facility and skill with which they either glide through the rolling billows, or mount over them, excite astonishment. They seldom or never visit the salt marshes. They continue on our shores during the winter; and leave us early in May for their breeding places in the north. Their skins are remarkably strong; and their flesh coarse, tasting of fish. They are shy birds, not easily approached; and are common in winter along the whole coast, from the river St. Lawrence to Florida.

The length of this species is twenty inches, extent thirty-two inches; the bill is yellowish red, elevated at the base, and marked on the side of the upper mandible with a large square patch of black, preceded by another space of a pearl color; the part of the bill thus marked swells or projects considerably from the common surface; the nostrils are large and pervious; the sides of the bill broadly serrated or toothed; both mandibles are furnished with a nail at the extremity, that of the lower mandible precisely resem-

bles the thumb nail of a man ; irides white, or very pale cream ; whole plumage a shining black, marked on the crown and hind-head with two triangular spaces of pure white ; the plumage on both these spots is shorter and thinner than the rest ; legs and feet blood red ; membrane of the feet black ; the primary quills are of a deep dusky brown.

On dissection the gullet was found to be gradually enlarged to the gizzard, which was altogether filled with broken shell-fish. There was a singular hard expansion at the commencement of the windpipe ; and another much larger about three quarters of an inch above where it separates into the two lobes of the lungs ; this last was larger than a Spanish hazel-nut, flat on one side and convex on the other. The protuberance on each side of the bill communicated with the nostril, and was hollow. All these were probably intended to contain supplies of air for the bird's support while under water ; the last may also protect the head from the sharp edges of the shells. The interior membrane of the gizzard is very tough and strong, resembling leather. On dissecting one specimen I found in its gizzard a muscle two and one eighth inches long, and one and one eighth inch wide.

The female is altogether of a sooty brown, lightest about the neck ; the prominences on the bill are scarcely observable and its color dusky.

This species was also found by capt. Cooke at Nootka Sound, on the northwest coast of America.

Although naturalists describe this Duck as peculiar to America, yet Temminck informs us that some stragglers have been found at the Orkney Isles : he consequently records it among the birds of Europe.

BUFFEL-HEADED DUCK.

ANAS ALBEOLA.[Plate LXVII.—Fig. 2, *Male*.—Fig. 3, *Female*.]

Le Canard d'hiver, BRISS. VI, p. 349; *La sarcelle de la Louisiane*, Id. p. 461, pl. 41, fig. 1; *Lasarcelle de la Caroline*, Id. p. 464.—*Le petit Canard à grosse tête*, BUFF. IX, p. 249; *La sarcelle blanche et noire*, Id. p. 284; *La sarcelle de la Caroline*, Id. p. 286. *Pl. Enl.* 948.—*Little Black and White Duck*, EDWARDS, II, pl. 100.—*Buffel's-head Duck*, CATESBY, I, 95; *Little Brown Duck*, Id. 98, female.—*Arct. Zool.* No. 487, 489.—LATH. *Syn.* III, p. 533.—*Ind. Orn.* p. 866, No. 86.—GMEL. *Syst.* I, p. 517, No. 18; *A. bucéphala*, Id. p. 521, No. 21; *A. rustica*, Id. p. 524, No. 24.—PEALE'S *Museum*, No. 2730; female, 2731.

THIS pretty little species, usually known by the name of the *Butter-box*, or *Butter-ball*, is common to the seashores, rivers and lakes of the United States, in every quarter of the country, during autumn and winter. About the middle of April, or early in May, they retire to the north to breed. They are dexterous divers, and fly with extraordinary velocity. So early as the latter part of February the males are observed to have violent disputes for the females; at this time they are more commonly seen in flocks; but during the preceding part of winter they usually fly in pairs. Their note is a short *quak*. They feed much on shell-fish, shrimps, &c. They are sometimes exceedingly fat; though their flesh is inferior to many others for the table. The male exceeds the female in size, and greatly in beauty of plumage.

The *Buffel-headed Duck*, or rather as it has originally been, the *Buffaloe-headed Duck*, from the disproportionate size of its head, is fourteen inches long, and twenty-three inches in extent; the bill is short, and of a pearl color, which changes to leaden after death; the plumage of the head, and half of the neck, is thick, long and velvety, projecting greatly over the lower part of the neck—this plumage on the forehead and nape is rich glossy green,

changing into a shining purple on the crown and sides of the neck; from the eyes backward passes a broad band of pure white; iris of the eye dark; back, wings, and part of the scapulars, black; rest of the scapulars, lateral band along the wing, and whole breast, snowy white; belly, vent, and tail-coverts, dusky white; tail pointed, and of a hoary color.

The female is considerably less than the male, and has the plumage of the head but slightly tumid; the head, neck and upper parts of the body, and wings, are sooty black, darkest on the crown; side of the head marked with a small oblong spot of white; bill dusky; lower part of the neck ash, tipped with white; belly dull white; vent cinereous, outer edges of six of the secondaries, and their incumbent coverts, white, except the tips of the latter, which are black; legs and feet a livid blue; tail hoary brown; length of the intestines three feet six inches. This is the Spirit Duck of Pennant, so called from its dexterity in diving (Aret. Zool. No. 487.), likewise the Little Brown Duck of Catesby (Nat. Hist. Car. pl. 98.).

This species is said to come into Budson's bay about Severn river in June, and make their nests in trees in the woods, near ponds.* The young males during the first year are almost exactly like the females in color.

* Latham.

CANADA GOOSE.

ANAS CANADENSIS.

[Plate LXVII.—Fig. 4.]

GMEL. *Syst.* I, p. 514, No. 14.—*L'Oye sauvage de Canada*, BRISS. VI, p. 272, 4, pl. 26.—*L'Oie à cravatte*, BUFF. IX, p. 82. *Pl. Enl.* 346.—EDW. *pl.* 151.—*Arct. Zool.* No. 471.—CATESBY, I, *pl.* 92.—LATH. *Syn.* III, p. 450.—*Ind. Orn.* p. 838, No. 17.—BEWICK, 2, p. 255.—PEALE'S *Museum*, No. 2704.

THIS is the common Wild Goose of the United States, known over the whole country ; whose regular periodical migrations are the sure signals of returning spring, or approaching winter. The tracts of their vast migratory journies are not confined to the sea-coast or its vicinity. In their aerial voyages to and from the north, these winged pilgrims pass over the interior on both sides of the mountains, as far west, at least, as the Osage river ; and I have never yet visited any quarter of the country where the inhabitants are not familiarly acquainted with the regular passing and repassing of the Wild Geese. When the vernal flight takes place, the general opinion here is that they are on their way to the *lakes* to breed ; but the inhabitants on the confines of the great lakes that separate us from Canada, are equally ignorant with ourselves of the particular breeding places of these birds. *There* their journey north is but commencing ; and how far it extends it is impossible for us at present to ascertain, from our little acquaintance with those frozen regions. They were seen by Hearne, in large flocks, within the arctic circle, and were then pursuing their way still farther north. Captain Phipps speaks of seeing Wild Geese feeding at the water's edge, on the dreary coast of Spitzbergen, in lat. 80° 27'. It is highly probable that they extend their migrations under the very pole itself, amid the silent desolation of unknown

countries, shut out since creation from the prying eye of man by everlasting and insuperable barriers of ice. That such places abound with their suitable food we cannot for a moment doubt; while the absence of their great destroyer man, and the splendors of a perpetual day, may render such regions the most suitable for their purpose.

Having fulfilled the great law of nature, the approaching rigors of that dreary climate oblige these vast congregated flocks to steer for the more genial regions of the south. And no sooner do they arrive at those countries of the earth inhabited by man, than the work of slaughter is commenced on their ranks. The English at Hudson's Bay, says Pennant, depend greatly on geese, and in favourable years kill three or four thousand, and barrel them up for use. They send out their servants, as well as Indians, to shoot these birds on their passage. It is in vain to pursue them; they therefore form a row of huts, made of boughs, at musquet-shot distance from each other, and place them in a line across the vast marshes of the country. Each stand, or *hovel*, as they are called, is occupied by only a single person. These attend the flight of the birds, and on their approach mimic their cackle so well, that the geese will answer, and wheel and come nearer the stand. The sportsman keeps motionless, and on his knees with his gun cocked the whole time, and never fires till he has seen the eyes of the Geese. He fires as they are going from him, then picks up another gun that lies by him and discharges that. The Geese which he has killed he sets upon sticks, as if alive, to decoy others; he also makes artificial birds for the same purpose. In a good day, for they fly in very uncertain and unequal numbers, a single Indian will kill two hundred. Notwithstanding every species of Goose has a different call, yet the Indians are admirable in their imitations of every one. The autumnal flight lasts from the middle of August to the middle of October; those which are taken in this season, when the frosts begin, are preserved in their fea-

thers, and left to be frozen for the fresh provisions of the winter stock. The feathers constitute an article of commeree, and are sent to England.

The vernal flight of the Geese lasts from the middle of April until the middle of May. Their first appearance coincides with the thawing of the swamps, when they are very lean. Their arrival from the south is impatiently attended; it is the harbinger of the spring, and the month named by the Indians the Goose moon. They appear usually at their settlements about St. George's day, O. S., and fly northward to nestle in security. They prefer islands to the continent, as farther from the haunts of men.*

After such prodigious havoe as thus appears to be made among these birds, and their running the gauntlet, if I may so speak, for many hundreds of miles through such destructive fires, no wonder they should have become more scarce, as well as shy, by the time they reach the shores of the United States.

Their first arrival on the coast of New Jersey is early in October, and their first numerous appearance is the sure prognostic of severe weather. Those which continue all winter frequent the shallow bays and marsh islands; their principal food being the broad tender green leaves of a marine plant which grows on stones and shells, and is usually called sea-cabbage; and also the roots of the sedge, which they are frequently observed in the act of tearing up. Every few days they make an excursion to the inlets on the beach for gravel. They cross, indiscriminately, over land or water, generally taking the nearest course to their object; differing in this respect from the Brant, which will often go a great way round by water rather than cross over the land. They swim well; and if wing-broken, dive and go a great way under water, causing the sportsman a great deal of fatigue before he can kill them. Except in very calm weather they rarely sleep on the water, but roost all night in the marshes. When the shallow bays are frozen,

* Arct. Zool.

they seek the mouths of inlets near the sea, occasionally visiting the air holes in the ice; but these bays are seldom so completely frozen as to prevent them from feeding on the bars.

The flight of the Wild Goose is heavy and laborious, generally in a straight line, or in two lines approximating to a point, thus, >; in both cases the van is led by an old gander, who every now and then pipes his well known *honk*, as if to ask how they come on, and the honk of "all's well" is generally returned by some of the party. Their course is in a straight line, with the exception of the undulations of their flight. When bewildered in foggy weather, they appear sometimes to be in great distress, flying about in an irregular manner, and for a considerable time over the same quarter, making a great clamour. On these occasions should they approach the earth, and alight, which they sometimes do, to rest and recollect themselves, the only hospitality they meet with is death and destruction from a whole neighborhood already in arms for their ruin.

Wounded Geese have, in numerous instances, been completely domesticated, and readily pair with the tame Gray Geese. The offspring are larger than either; but the characteristic marks of the Wild Goose still predominate. The gunners on the seashore have long been in the practice of taming the wounded of both sexes, and have sometimes succeeded in getting them to pair and produce. The female always seeks out the most solitary place for her nest, not far from the water. On the approach of every spring, however, these birds discover symptoms of great uneasiness, frequently looking up into the air, and attempting to go off. Some whose wings have been closely cut, have travelled on foot in a northern direction, and have been found at the distance of several miles from home. They hail every flock that passes overhead, and the salute is sure to be returned by the voyagers, who are only prevented from alighting among them by the presence and habitations of man. The gunners take one or two of these domesticated Geese with

them to those parts of the marshes over which the wild ones are accustomed to fly ; and concealing themselves within gunshot, wait for a flight, which is no sooner perceived by the decoy Geese, than they begin calling aloud, until the whole flock approaches so near as to give the shooters an opportunity of discharging two, and sometimes three, loaded muskets among it, by which great havoc is made.

The Wild Goose, when in good order, weighs from ten to twelve, and sometimes fourteen pounds. They are sold in the Philadelphia markets at from seventy-five cents to one dollar and twenty-five cents each ; and are estimated to yield half a pound of feathers a piece, which produces twenty-five or thirty cents more.

The Canada Goose is now domesticated in numerous quarters of the country, and is remarked for being extremely watchful, and more sensible of approaching changes in the atmosphere than the common Gray Goose. In England, France, and Germany, they have also been long ago domesticated. Buffon, in his account of this bird, observes, "within these few years many hundreds inhabited the great canal at Versailles, where they bred familiarly with the Swans ; they were oftener on the grassy margins than in the water ;" and adds, "there is at present a great number of them on the magnificent pools that decorate the charming gardens of Chantilly." Thus has America already added to the stock of domestic fowls three species, the Turkey, the Muscovy Duck, and the Canada Goose, superior to most in size, and inferior to none in usefulness ; for it is acknowledged by an English naturalist of good observation, that this last species "is as familiar, breeds as freely, and is in every respect as valuable as the common Goose."*

The strong disposition of the wounded Wild Geese to migrate to the north in spring, has been already taken notice of. Instances have occurred where, their wounds having healed, they

* Bewick, vol. ii, p. 255.

have actually succeeded in mounting into the higher regions of the air, and joined a party passing to the north ; and, extraordinary as it may appear, I am well assured by the testimony of several respectable persons, who have been eye-witnesses to the fact, that they have been also known to return again in the succeeding autumn to their former habitation. These accounts are strongly corroborated by a letter which I some time ago received from an obliging correspondent at New York ; which I shall here give at large, permitting him to tell his story in his own way, and conclude my history of this species.

“ Mr. Platt, a respectable farmer on Long-Island, being out shooting in one of the bays which, in that part of the country, abound with water-fowl, wounded a Wild Goose. Being wing-tipped, and unable to fly, he caught it, and brought it home alive. It proved to be a female ; and turning it into his yard, with a flock of tame Geese, it soon became quite tame and familiar, and in a little time its wounded wing entirely healed. In the following spring, when the Wild Geese migrate to the northward, a flock passed over Mr. Platt's barn yard ; and just at that moment their leader happening to sound his bugle-note, our Goose, in whom its new habits and enjoyments had not quite extinguished the love of liberty, and remembering the well known sound, spread its wings, mounted into the air, joined the travellers, and soon disappeared. In the succeeding autumn the Wild Geese (as was usual) returned from the northward in great numbers, to pass the winter in our bays and rivers. Mr. Platt happened to be standing in his yard when a flock passed directly over his barn. At that instant, he observed three Geese detach themselves from the rest, and after wheeling round several times, alight in the middle of the yard. Imagine his surprise and pleasure, when by certain well remembered signs, he recognized in one of the three his long lost fugitive. It was she indeed ! She had travelled many hundred miles to the lakes ; had there hatched and reared her offspring ; and had

now returned with her little family, to share with them the sweets of civilized life.

“ The truth of the foregoing relation can be attested by many respectable people, to whom Mr. Platt has related the circumstances as above detailed. The birds were all living, and in his possession, about a year ago ; and had shown no disposition whatever to leave him.”

The length of this species is three feet, extent five feet two inches ; the bill is black ; irides dark hazel ; upper half of the neck black, marked on the chin, and lower part of the head, with a large patch of white, its distinguishing character ; lower part of the neck before white ; back and wing-coverts brown, each feather tipped with whitish ; rump and tail black ; tail-coverts and vent white ; primaries black, reaching to the extremity of the tail ; sides pale ashy brown ; legs and feet blackish ash.

The male and female are exactly alike in plumage.

Mr. Reuben Haines of Germantown, in the county of Philadelphia, possesses a flock of Canada Geese. The original pair were taken on board of a vessel on our coast, having been driven to sea by a storm. The person into whose hands they came, finding that they evinced no disposition to breed, gave them to Mr. Haines, who owned them for one year without perceiving any symptoms of an increase. He was now informed that Wild Geese would not breed unless they were provided with water to swim in ; hence he constructed for them a convenient pond, which he was enabled to effect by means of a rivulet of limpid water, running through his grounds. In April, 1822, the goose laid six eggs, four of which, in due time, produced as many goslings, and all were raised.

On the 15th of April, in the following year, the goose again commenced laying ; on the 24th she began to sit upon six eggs ; and brought forth three young on the 24th of May, three of the eggs being addled. Both male and female, from the commencement of laying, were extremely watchful of their nest, which was

situated in a retired spot, they never leaving it for a moment unguarded; and during incubation the male sat in the absence of his mate. On the approach of any one they betrayed strong symptoms of alarm; and when the young were hatched, the gander would advance, in a threatening attitude, toward intruders upon their premises. They would seldom wander far from their favourite stream, on the grassy margin of which they delighted to repose and preen themselves, after the exercise of bathing, surveying, with looks of affectionate complacency, their interesting progeny. From some unknown cause the old goose has not laid the present year, 1824; and none of the young, even of the first year, although apparently full grown, have given evidence of an inclination to produce: hence it is probable that this species does not breed until three years old.

AMERICAN TUFTED DUCK.

ANAS RUFITORQUES.[Plate LXVII.—Fig. 5, *Male.*]

Journal of the Academy of Natural Sciences of Philadelphia, vol. III, p. 385; plate 13, figure 6, the Trachea.

IT is remarkable that our author should not have observed the difference between this species and the *fuligula* of Europe; and still more worthy of note that Mr. Temminck, whose powers of discrimination are unusually acute, should also have been misled by the opinions of others, and concluded, with Wilson, that the Tufted Duck figured in our plate was of the same species as the Tufted Duck of Europe. The only apology which we can make for our author is, that he had never had an opportunity of examining a specimen of the *fuligula*; otherwise the specific differences of the two would have been obvious at the first glance. The bill of the *fuligula* has not those white bands or markings which are so conspicuous in our bird, its neck is also destitute of the chestnut collar; the speculum of the former is pure white, that of the latter is pale ash; and, what is a still more striking characteristic, its head is merely tufted, while the *fuligula's* is ornamented with a pendent crest, of two inches in length.

The credit of having been the first to publicly announce our bird as a new species belongs to Mr. Charles Bonaparte, who, in the publication quoted at the head of this article, has given a comparative description of the two birds, and named the subject of this article *rufitorques*.

The American Tufted Duck is said to be common on the Ohio, and the Mississippi ; Messieurs Say and Peale procured it on the Missouri ; Lewis and Clarke shot it on the Columbia ;* and the Editor in East Florida. It is, properly speaking, a fresh water Duck, although it is sometimes found on the coast. On the Delaware we observe it in the spring and autumn ; and, if the weather be moderate, we see it occasionally throughout the winter. With us it is not a numerous species ; and is rather a solitary bird, seldom more than four or five being found together. It is more common in the month of March than at any other time. It is a plump, short-bodied Duck ; its flesh tender, and well tasted ; but in no respects to be compared to that of the Canvass-back ; it is even inferior to the Mallard.

The American Tufted Duck is seventeen inches long, and twenty-seven inches in breadth ; the bill is broad, of a dull bluish ash color, the base of the upper mandible marked with a stripe of pure white, which extends along its edges, and then forms a wider band across near the tip, which is of a deep black—this white band changes after death to gray or bluish white ; irides rich orange ; a spot of white on the chin ; head tufted, and, with the upper part of the neck, black, with reflections of rich purple, predominating on the back part of the neck ; about the middle of the neck there is an interrupted band of a rich deep glossy chestnut ; throat, lower part of the neck, breast, back, scapulars, rump, and tail-coverts, of a silky brownish black ; primaries and wing-coverts brown ; tertials dark brown, with strong reflections of green ; secondaries pale ash, or bluish white, forming the speculum, some tipped with brown and others with white ; back and scapulars powdered with particles of dull white, not to be observed but on a near inspection, and presenting the appearance of dust ; lower part of the

* Hist. of the Exped. vol. II, p. 195, 8vo.

breast, and whole belly, white, with a yellowish tinge; vent dusky; sides under the wings, and flanks, beautifully marked with fine zigzag lines of dusky; tail dull brown, cuneiform, and composed of fourteen feathers; the primaries, wing-coverts, back and scapulars, are glossed with green; webs of the feet black. The color of the legs and feet varies: those of the figure in the plate were greenish ash; those of the specimen above described were pale yellow ochre, dashed with black; and those of Mr. Bonaparte's specimen were bluish ash. The above description was taken from a fine adult male, shot by the Editor on the 1st of April, 1814.

On the 8th of March, 1815, the Editor shot, from a flock, consisting of five individuals, two males; and an adult female in full plumage.

Female: Length sixteen inches and a half; bill darker than that of the male, without the white at its base, above the nail with a band of dull bluish white; beneath the eyes a spot of white; chin and front part of the lores white; throat spotted with dusky; cheeks and auriculars finely powdered with white; neck without the chestnut band; head, neck, breast, upper parts of the back, lower parts of the belly, and vent, a snuff-colored brown; belly whitish; lower part of the back dusky; the under tail-coverts penciled with fine zigzag lines; neck rather thicker than that of the male, but the head equally tufted. The wings, feet, legs, tail and eyes, resemble those parts of the male. The dust-like particles, which are so remarkable upon the back and scapulars of the male, are wanting in the female.

In young males the head and upper part of the neck are purplish brown; in some the chestnut band of the neck is obscure.

The stomachs of those specimens which I dissected were filled with gravel and vegetable food. The trachea, according to the observations of Mr. Bonaparte, resembles that of the *fuligula*.

This species is in no respects so shy and cunning as the Scaup Duck; and is more easily shot.

GOLDEN-EYE.

ANAS CLANGULA.[Plate LXVII.—Fig. 6, *Male.*]

Le Garrot, BRISS. VI, p. 416, 27, pl. 37, fig. 2.—BUFF. IX, p. 222. *Pl. Enl.* 802.—*Arct. Zool.* No. 486; *Morillon*, *Id.* vol. II, p. 300, F.—*Br. Zool.* No. 276, 277.—LATH. *Syn.* III, p. 535; *Id. Sup.* II, p. 355, No. 26.—*Ind. Orn.* p. 867, No. 87; *A. glaucion*, *Id.* p. 868, No. 88.—GMEL. *Syst.* I, p. 523, No. 23; *Id.* p. 525, No. 26.—TEMM. *Man. d'Orn.* p. 870.—BEWICK, II, p. 330.—CUV. *Règ. An.* I, p. 534.—PEALE'S *Museum*, No. 2921; *female*, 2922.

THIS Duck is well known in Europe, and in various regions of the United States, both along the seacoast, and about the lakes and rivers of the interior. It associates in small parties, and may easily be known by the vigorous whistling of its wings as it passes through the air. It swims and dives well; but seldom walks on shore, and then in a waddling awkward manner. Feeding chiefly on shell-fish, small fry, &c. their flesh is less esteemed than that of the preceding. In the United States they are only winter visitors, leaving us again in the month of April, being then on their passage to the north to breed. They are said to build, like the Wood Duck, in hollow trees.

The Golden-eye is nineteen inches long, and twenty-nine in extent, and weighs on an average about two pounds; the bill is black, short, rising considerably up in the forehead; the plumage of the head, and part of the neck, is tumid, and of a dark green, with violet reflections, marked near the corner of the mouth with an oval spot of white; the irides are golden yellow; rest of the neck, breast, and whole lower parts, white, except the flanks, which are dusky; back and wings black; over the latter a broad

bed of white extends from the middle of the lesser coverts to the extremity of the secondaries; the exterior scapulars are also white; tail hoary brown; rump and tail-coverts black; legs and toes reddish orange; webs very large, and of a dark purplish brown; hind toe, and exterior edge of the inner one, broadly finned; sides of the bill obliquely dentated; tongue covered above with a fine thick velvety down of a whitish color.

The full-plumaged female is seventeen inches in length, and twenty-seven inches in extent; bill brown, orange near the tip; head and part of the neck brown, or very dark drab, bounded below by a ring of white; below that the neck is ash, tipped with white; rest of the lower parts white; wings dusky, six of the secondaries, and their greater coverts, pure white, except the tips of the last, which are touched with dusky spots; rest of the wing-coverts cinereous, mixed with whitish; back and scapulars dusky, tipped with brown; feet dull orange; across the vent a band of cinereous; tongue covered with the same velvety down as the male.

The young birds of the first season very much resemble the females; but may generally be distinguished by the white spot, or at least its rudiments, which marks the corner of the mouth. Yet, in some cases, even this is variable, both old and young male birds occasionally wanting the spot.

From an examination of many individuals of this species, of both sexes, I have very little doubt that the *Morillon* of Pennant (*Anas glaucion*) is nothing more than the young male of the Golden-eye.

The conformation of the trachea or windpipe, of the male of this species, is singular; nearly about its middle it swells out to at least five times its common diameter, the concentric hoops or rings, of which this part is formed, falling obliquely into one another when the windpipe is relaxed; but when stretched, this part swells out to its full size, the rings being then drawn apart; this expansion extends for about three inches; three more below this

it again forms itself into a hard cartilaginous shell, of an irregular figure, and nearly as large as a walnut; from the bottom of this labyrinth, as it has been called, the trachea branches off to the two lobes of the lungs; that branch which goes to the left lobe being three times the diameter of the right. The female has nothing of all this. The intestines measure five feet in length, and are large and thick.

I have examined many individuals of this species, of both sexes, and in various stages of color, and can therefore affirm, with certainty, that the foregoing descriptions are correct. Europeans have differed greatly in their accounts of this bird, from finding males in the same garb as the females; and other full-plumaged males destitute of the spot of white on the cheek; but all these individuals bear such evident marks of belonging to one peculiar species, that no judicious naturalist, with all these varieties before him, can long hesitate to pronounce them the same.

SHOVELLER.

ANAS CLYPEATA.[Plate LXVII.—Fig. 7, *Male.*]

GMEL. *Syst.* I, p. 518, No. 19; *A. Mexicana*, *Id.* p. 519, No. 81; *A. rubens*, *Id.* No. 82.—
 LATH. *Ind. Orn.* p. 856, No. 60; p. 857, No. 61, No. 62. *Gen. Syn.* III, p. 509, No. 55;
 p. 511, No. 56; p. 512, No. 57.—*Blue-wing Shoveller*, CATESBY, I, pl. 96, *female*.—
Arct. Zool. No. 485.—*Br. Zool.* No. 280, No. 281.—*Le Souchet*, BRISS. VI, p. 329, pl.
 32, fig. 1; *Le Souchet du Mexique*, *Id.* p. 337; *Le Canard Sauvage du Mexique*, *Id.* p.
 327, No. 5.—*Le Souchet ou le Rouge*, BUFF. IX, p. 191. *Pl. Enl.* 971; *female*, 972.—
Canard Souchet, TEMM. *Man. d'Orn.* p. 842.—BEWICK, II, p. 310, 313.—*Le Souchet*
commun, CUV. *Règ. An.* I, p. 536.—PEALE'S *Museum*, No. 2734; *female*, 2735.

IF we except the singularly formed bill, and its disproportionate size, there are few Ducks more beautiful, or more elegantly marked than this. The excellence of its flesh, which is uniformly juicy, tender, and well tasted, is another recommendation to which it is equally entitled. It occasionally visits the seacoast; but is more commonly found on our lakes and rivers, particularly along their muddy shores, where it spends great part of its time in searching for small worms, and the larvæ of insects, sifting the watery mud through the long and finely set teeth of its curious bill, which is large and admirably constructed for the purpose of receiving a considerable quantity of matter, each mandible bordered with close-set, pectinated rows, exactly resembling those of a weaver's reed, which fitting into each other form a kind of sieve, capable of retaining very minute worms, seeds, or insects, which constitute the principal food of the bird.

The Shoveller visits us only in the winter, and is not known to breed in any part of the United States. It is a common bird of Europe, and, according to M. Baillon, the correspondent of Buffon, breeds yearly in the marshes in France. The female is said

to make her nest on the ground, with withered grass, in the midst of the largest tufts of rushes or coarse herbage, in the most inaccessible part of the slaky marsh, and lays ten or twelve pale rust colored eggs ; the young, as soon as hatched, are conducted to the water by the parent birds. They are said to be at first very shapeless and ugly, for the bill is then as broad as the body, and seems too great a weight for the little bird to carry. Their plumage does not acquire its full colors until after the second moult.

The Blue-winged Shoveller is twenty inches long, and two feet six inches in extent ; the bill is brownish black, three inches in length, greatly widened near the extremity, closely pectinated on the sides, and furnished with a nail on the tip of each mandible ; irides bright orange ; tongue large and fleshy ; the inside of the upper, and outside of the lower, mandible are grooved so as to receive distinctly the long separated reed-like teeth ; there is also a gibbosity in the two mandibles, which do not meet at the sides, and this vacuity is occupied by the sifters just mentioned ; head and upper half of the neck glossy, changeable green ; rest of the neck and breast white, passing round and nearly meeting above ; whole belly dark reddish chestnut ; flanks a brownish yellow, penciled transversely with black, between which and the vent, which is black, there is a band of white ; back blackish brown ; exterior edges of the scapulars white ; lesser wing coverts, and some of the tertials, a fine light sky blue ; beauty spot on the wing a changeable resplendent bronze green, bordered above by a band of white, and below with another of velvety black ; rest of the wing dusky, some of the tertials streaked down their middles with white ; tail dusky, pointed, broadly edged with white ; legs and feet reddish orange, hind toe not finned.

With the above another was shot, which differed in having the breast spotted with dusky, and the back with white ; the green plumage of the head intermixed with gray, and the belly with cir-

cular touches of white: evidently a young male in its imperfect plumage.

The female has the crown of a dusky brown; rest of the head and neck yellowish white, thickly spotted with dark brown; these spots on the breast become larger, and crescent-shaped; back and scapulars dark brown, edged and centred with yellow ochre; belly slightly rufous, mixed with white; wing nearly as in the male.

On dissection, the labyrinth in the windpipe of the male was found to be small; the trachea itself seven inches long; the intestines nine feet nine inches in length, and about the thickness of a crow quill.

The Shoveller is common in East Florida. It frequents the fresh water ponds during the winter, and becomes very fat. Its flesh is excellent.

GOOSANDER.

MERGUS MERGANSER.[Plate LXVIII.—Fig. 1, *Male.*]

GMEL. *Syst.* I, p. 544, No. 2.—LATH. *Ind. Orn.* p. 828, No. 1. *Gen. Syn.* III, p. 418; *Id. Sup.* II, p. 336.—BEWICK, II, p. 228.—*L'Harle*, BRISS. VI, p. 231, pl. 22; *L'Harle cendré, ou le Bièvre*, *Id.* p. 254, No. 7, pl. 25, *young male?*—*Le Harle*, BUFF. VIII, p. 267, pl. 23. *Pl. Enl.* 951.—*Arct. Zool.* No. 465.—*Br. Zool.* No. 260, pl. 92, *male and female.*—*Grand Harle*, TEMM. *Man. d'Orn.* p. 881.—*Le Harle vulgaire*, CUV. *Règ. An.* I, p. 540.—MONTAGU, *Orn. Dic. Sup.*—PEALE'S *Museum*, No. 2932.

THIS large and handsomely marked bird belongs to a genus different from that of the *Duck*, on account of the particular form and serratures of its bill. The genus is characterised as follows: “*Bill* toothed, slender, cylindric, hooked at the point; *nostrils* small, oval, placed in the middle of the bill; *feet* four-toed, the outer toe longest.” Naturalists have denominated it *Merganser*. In this country the birds composing this genus are generally known by the name of Fishermen, or Fisher Ducks. The whole number of known species amounts to only nine or ten, dispersed through various quarters of the world; of these, four species, of which the present is the largest, are known to inhabit the United States.

From the common habit of these birds in feeding on fin-fish and shell-fish, their flesh is held in little estimation, although commonly fat, both smelling and tasting strongly of fish; but such are the various peculiarities of tastes, that persons are not wanting who pretend to consider them capital meat.

The Goosander, called by some the Water Pheasant, and by others the Sheldrake, Fisherman, Diver, &c., is a winter inhabitant of the seashores, fresh water lakes, and rivers of the United States.

Engraved by J. G. Smith

1. Greynack

2. Fowls

3. Blue and White

4. Blue winged Teal

5. Swan

Engraved by J. G. Smith



They usually associate in small parties of six or eight. In the month of April they disappear, and return again early in November. Of their particular place and manner of breeding we have no account. Mr. Pennant observes that they continue the whole year in the Orknies; and have been shot in the Hebrides or Western Islands of Scotland in summer. They are also found in Iceland, and Greenland, and are said to breed there; some asserting that they build on trees; others that they make their nests among the rocks.

The Goosander is a broad, long-bodied, and flat-backed bird. It is a great diver, and remains under water for a considerable time. It is very shy, and hard to be obtained, unless there is ice in the river, at which time it may be approached by stratagem, the shooter and his boat being clothed in white, so as to resemble floating ice. It appears to live chiefly upon fin-fish, which its sharp-toothed and hooked bill is admirably calculated for securing. It rises from the water with considerable fluttering, its wings being small and short; but when in the air it flies with great swiftness. It is a singular circumstance that those Goosanders which are seen in the Delaware and Schuylkill, in the vicinity of Philadelphia, are principally old males.

The male Goosander is twenty-six inches in length, and thirty-seven inches in breadth; the bill to the angles of the mouth is three inches long, nearly an inch thick at the base, strongly toothed on both mandibles, the upper mandible with two corresponding rows of fine teeth within, the lower divided to the nail, and connected by a thin elastic membrane, which admits of considerable expansion to facilitate the passage of fish; nostrils subovate, broader on the hind part; the bill is black above and below, its sides crimson; the tongue is long, pointed, furnished with a double row of papillæ running along the middle, and has a hairy border; irides golden; the frontlet, lores, area of the eyes, and throat, jet black; head crested, tumid, and of a beautiful

glossy bottle-green color, extending nearly half way down the neck, the remainder of which, with the exterior part of the scapulars, the lesser coverts, the greater part of the secondaries, the tertials, and lining of the wings, white, delicately tinged with cream color; the breast and whole lower parts are of a rich cream color; the upper part of the back, and the interior scapulars, a fine glossy black; the primaries, and exterior part of the secondaries, with their coverts, are brownish black; the lower part of nearly all the coverts of the secondaries white, the upper part black, forming a bar across the wing; the shoulder of the wing is brownish ash, the feathers tipped with black; the middle and lower parts of the back, and tail-coverts, ash, the plumage centred with brown; tail brownish ash, rounded, composed of eighteen feathers, and extends about three inches beyond the wings; the flanks are marked with waving, finely-dotted, lines of ash on a white ground; tertials on the outer vanes edged with black; the legs and feet are of a rich orange; toes long, middle one *somewhat the longest*, claws flesh colored. The whole plumage is of a silky softness, particularly that of the head and neck, which feels like the most delicate velvet.

Naturalists represent the feet and legs of this species as of the color of red sealing-wax. This is an error which arose from the circumstance of their having seen their specimens some time after they had been killed. When the bird is alive, these parts are of a beautiful orange, which changes after death to the color they mention.

The above description was taken from a fine full-plumaged male, which was shot in the vicinity of Philadelphia in the month of January. It was in good condition, and weighed three pounds thirteen ounces avoirdupois. The young males, which are generally much more numerous than the old ones, so exactly resemble the females in their plumage, for at least the first, and part of the second, year, as scarcely to be distinguished from them; and, what is somewhat singular, the crests of these, and of the females, are

actually longer than those of the full-grown male, though thinner towards its extremities. These circumstances have induced some late ornithologists to consider them as two different species, the young male, and the female, having been called the *Dun-diver*. By this arrangement they have entirely deprived the Goosander of his female; for in the whole of my examinations and dissections of the present species, I have never yet found the female in *his* dress. What I consider as undoubtedly the true female of this species is figured beside him. They were both shot in the month of April, in the same creek, unaccompanied by any other, and, on examination, the sexual parts of each were strongly and prominently marked. The windpipe of the female had nothing remarkable in it; that of the male had two very large expansions, which have been briefly described by Willoughby, who says: "It hath a large bony labyrinth on the windpipe, just above the divarications; and the windpipe hath besides two swellings out, one above another, each resembling a powder puff." These labyrinths are the distinguishing characters of the males; and are always found even in young males who have not yet thrown off the plumage of the female, as well as in the old ones. If we admit these Dun-divers to be a distinct species, we can find no difference between their pretended females and those of the Goosander, only one kind of female of this sort being known, and this is contrary to the usual analogy of the other three species, *viz.* the *Red-breasted Merganser*, the *Hooded*, and the *Smew*, all of whose females are well known, and bear the same comparative resemblance in color to their respective males, the length of crest excepted, as the female Goosander we have figured bears to him.

Having thought thus much necessary on this disputed point, I leave each to form his own opinion on the facts and reasoning produced, and proceed to describe the female.

FEMALE GOOSANDER.

[Plate LXVIII.—Fig. 2.]

Mergus castor, GMEL. *Syst.* I, p. 545, *et var.*—LATH. *Ind. Orn.* p. 829, No. 2. *Dun Diver*, *Gen. Syn.* III, p. 420, 421.—BEWICK, II, p. 231.—MONTAGU, *Orn. Dic. Sup.*—BRISS. VI, p. 236.—*Le Harle femelle*, BUFF. VIII, p. 272. *Pl. Enl.* 953.—PEALE'S *Museum*, No. 2933.

THIS generally measures an inch or two shorter than the male; the length of the present specimen was twenty-five inches, extent thirty-five inches; bill crimson on the sides, black above; irides reddish; crested head and part of the neck dark brown, lightest on the sides of the neck, where it inclines to a sorrel color; chin and throat white; the crest shoots out in long radiating flexible stripes; upper part of the body, tail and flanks, an ashy slate, tinged with brown; primaries black; middle secondaries white, forming a large speculum on the wing; greater coverts black, tipped for half an inch with white; sides of the breast, from the sorrel colored part of the neck downwards, very pale ash, with broad semicircular touches of white; belly and lower part of the breast a fine yellowish cream color, a distinguishing trait also in the male; legs and feet rich orange.

It is truly astonishing with what pertinacity Montagu adheres to the opinion that the Dun-diver is a species distinct from the Goosander. Had this excellent ornithologist had the same opportunities for examining these birds that we have, he would never have published an opinion, which, in this quarter of the globe, would subject one, even from the vulgar, to the imputation of ignorance.

PINTAIL DUCK.

ANAS ACUTA.[Plate LXVIII.—Fig. 3, *Male.*]

GMEL. *Syst.* I, p. 528, No. 28.—*Ind. Orn.* p. 864, No. 81. *Gen. Syn.* III, p. 526, No. 72;
Id. Sup. II, p. 354, No. 25.—TEMM. *Man. d'Orn.* p. 838.—CUV. *Règ. An.* I, p. 537.—*Le*
Canard à longue queue, BRISS. VI, p. 369, 16, pl. 34, fig. 1, 2.—BUFF. IX, p. 199, pl.
 13. *Pl. Enl.* 954.—BEWICK, II, p. 324.—*Arct. Zool.* No. 500.—PEALE'S *Museum*, No.
 2806; *female*, 2807.

THE Pintail, or as it is sometimes called, the Sprigtail, is a common and well known duck in our markets; much esteemed for the excellence of its flesh; and is generally in good order. It is a shy and cautious bird; feeds on the mud-flats, and shallow fresh water marshes; but rarely resides on the seacoast. It seldom dives; is very noisy, and has a kind of chattering note. When wounded from a boat they will sometimes dive, and coming up conceal themselves under the bow, moving round as the boat moves. Are vigilant in giving the alarm on the approach of the gunner, who often curses the watchfulness of the Sprigtail. Some Ducks when aroused disperse in different directions; but the Sprig-tails when alarmed cluster confusedly together as they mount, and thereby afford the sportsman a fair opportunity of raking them with advantage. They generally leave the Delaware about the middle of April, on the way to their native regions the north, where they are most numerous. They inhabit the whole northern parts of Europe and Asia, and doubtless the corresponding latitudes of America. Are said likewise to be found in Italy. Great flocks of them are sometimes spread along the isles and shores of Scotland and Ireland, and on the interior lakes of both these countries.

On the marshy shores of some of the bays of Lake Ontario they are often plenty in the months of October and November. I also met with them at Louisville on the Ohio.

The Pintail Duck is twenty-six inches in length, and two feet ten inches in extent; the bill is a dusky lead color; irides dark hazel; head and half of the neck pale brown, each side of the latter marked with a band of purple violet, hind part of the upper half of the neck black, bordered on each side by a stripe of white, which spreads over the lower part of the neck before; sides of the breast, and upper part of the back, white, thickly and elegantly marked with tranverse undulating lines of black, here and there tinged with pale buff; throat, and middle of the belly, white tinged with cream; flanks finely penciled with waving lines; vent white; under tail-coverts black; lesser wing-coverts brown ash, greater the same, tipped with orange, below which is the speculum or beauty spot of rich golden green, bordered below with a band of black, and another of white; primaries dusky brown; tertials long, black, edged with white, and tinged with rust; rump and tail-coverts pale ash, centred with dark brown; tail greatly pointed, the two middle tapering feathers being full five inches longer than the others and black, the rest brown ash edged with white; legs a pale lead color.

The female has the crown of a dark brown color; neck of a dull brownish white, thickly speckled with dark brown; breast and belly pale brownish white, interspersed with black; back and root of the neck above black, each feather elegantly waved with broad lines of brownish white, these wavings become rufous on the scapulars; vent white, spotted with dark brown; tail dark brown spotted with white; the two middle tail feathers half an inch longer than the others.

The Sprigtail is an elegantly formed, long-bodied Duck, the neck longer and more slender than most others.

BLUE-WINGED TEAL.

ANAS DISCORS.[Plate LXVIII.—Fig. 4, *Male*.]

GMEL. *Syst.* I, p. 535, No. 37.—LATH. *Ind. Orn.* p. 854, No. 55. *Gen. Syn.* III, p. 502, No. 50.—*Aret. Zool.* No. 503.—*White-faced Teal*, CATESBY, I, pl. 100; *Blue-winged Teal*, *Id.* pl. 99, *female*.—*La sarcelle d'Amérique*, BRISS. VI, p. 452, No. 35; *La sarcelle de Virginie*, *Id.* p. 455, No. 36.—*La sarcelle soucrourou*, BUFF. IX, p. 279; *La sarcelle soucrourette*, *Id.* p. 280. *Sarcelle mâle de Cayenne, ditte le soucrourou*, *Pl. Enl.* 966; *Sarcelle de Cayenne*, *Id.* 403, *female*.—PEALE'S *Museum*, No. 2846.

THE Blue-winged Teal is the first of its tribe that returns to us in the autumn, from its breeding place in the north. They are usually seen early in September, along the shores of the Delaware, where they sit on the mud close to the edge of the water, so crowded together that the gunners often kill great numbers at a single discharge. When a flock is discovered thus sitting and sunning themselves, the experienced gunner runs his bateau ashore, at some distance below or above them, and getting out, pushes her before him over the slippery mud, concealing himself all the while behind her; by this method he can sometimes approach within twenty yards of the flock, among which he generally makes great slaughter. They fly rapidly; and when they alight drop down suddenly like the Snipe or Woodcock, among the reeds, or on the mud. They feed chiefly on vegetable food, and are eagerly fond of the seeds of the reeds or wild oats. Their flesh is excellent; and after their residence for a short time among the reeds, becomes very fat. As the first frosts come on, they proceed to the south, being a delicate bird, very susceptible of cold. They abound in the inundated rice fields in the southern states, where vast numbers are taken in traps placed on small dry

eminences that here and there rise above the water. These places are strewn with rice; and by the common contrivance called a *figure four*, they are caught alive in hollow traps. In the month of April they pass through Pennsylvania for the north; but make little stay at that season. I have observed them numerous on the Hudson opposite to the Katskill mountains. They rarely visit the seashore.

This species measures about fourteen inches in length, and twenty-two inches in extent; the bill is long in proportion, and of a dark dusky slate; the front and upper part of the head are black; from the eye to the chin is a large crescent of white, the rest of the head, and half the neck, is of a dark slate, richly glossed with green and violet, remainder of the neck and breast is black or dusky, thickly marked with semicircles of brownish white, elegantly intersecting each other; belly pale brown, barred with dusky, in narrow lines; sides and vent the same tint, spotted with oval marks of dusky; flanks elegantly waved with large semicircles of pale brown; sides of the vent pure white; under tail-coverts black; back deep brownish black, each feather waved with large semi-ovals of brownish white; lesser wing-coverts a bright light blue; primaries dusky brown; secondaries black; speculum or beauty spot rich green; tertials edged with black or light blue, and streaked down their middle with white; the tail, which is pointed, extends two inches beyond the wings; legs and feet yellow, the latter very small; the two crescents of white before the eyes meet on the throat.

The female differs in having the head and neck of a dull dusky slate instead of the rich violet of the male, the hind-head is also whitish. The wavings on the back, and lower parts, more indistinct; wing nearly the same in both.

In East Florida this species is common; and Lewis and Clarke record it among the birds of the western coast of North America.

SNOW GOOSE.

ANAS HYPERBOREA.[Plate LXVIII.—Fig. 5, *Male.*]

GMEL. *Syst.* I, p. 504, No. 54.—*Ind. Orn.* p. 337, No. 14. *Gen. Syn.* III, p. 445.—TEMM. *Man. d'Orn.* p. 816.—*L'Oye de Neige*, BRISS. VI, p. 288, 10.—*White Brant*, LAWSON'S *Carolina*, p. 157.—*Arct. Zool.* No. 477.—*Phil. Trans.* 62, p. 413.—CUV. *Règ. An.* I, p. 531.—PEALE'S *Museum*, No. 2635.

THIS bird is particularly deserving of the further investigation of naturalists; for, if I do not greatly mistake, English writers have, from the various appearances which this species assumes in its progress to perfect plumage, formed no less than four different kinds, which they describe as so many distinct species, viz. the *Snow Goose*, the *White-fronted* or *Laughing Goose*, the *Bean Goose*, and the *Blue-winged Goose*; all of which, I have little doubt, will hereafter be found to be nothing more than perfect and imperfect individuals, male and female, of the *Snow Goose*, now before us.*

This species, called on the seacoast the *Red Goose*, arrives in the river Delaware, from the north, early in November, sometimes in considerable flocks, and is extremely noisy, their notes being shriller and more squeaking than those of the *Canada*, or *Common Wild Goose*. On their first arrival they make but a short stay, proceeding, as the depth of winter approaches, farther to the south; but from the middle of February until the breaking up of the ice in March, they are frequently numerous along both shores of the Delaware, about and below Reddy Island, particu-

* This conjecture of our author is partly erroneous. The *Snow Goose* and the *Blue-winged Goose* are synonymous; but the other two named are distinct species, the characters of which are well defined by late ornithologists.

larly near Old Duck Creek, in the state of Delaware. They feed on the roots of the reeds there, tearing them up from the marshes like hogs. Their flesh, like most others of their tribe that feed on vegetables, is excellent.

The Snow Goose is two feet eight inches in length, and five feet in extent; the bill is three inches in length, remarkably thick at the base, rises high in the forehead, but becomes small and compressed at the extremity, where each mandible is furnished with a whitish rounding nail, its color a purplish carmine; the edges of the two mandibles separate from each other in a singular manner for their whole length, and this gibbosity is occupied by dentated rows resembling teeth, these and the parts adjoining being of a blackish color; the whole plumage is of a snowy whiteness, with the exception, first, of the fore part of the head all round as far as the eyes, which is of a yellowish rust color intermixed with white, and, secondly, the nine exterior quill feathers, which are black, shafted with white, and white at the root, the coverts of these last, and also the bastard wing, is sometimes of a pale ash color; the legs and feet of the same purplish earmine as the bill; iris dark hazel; the tail is rounded, and consists of sixteen feathers; that and the wings, when shut, nearly of a length.

The bill of this bird is singularly curious; the edges of the upper and lower gibbosities have each twenty-three indentations, or strong teeth, on each side; and the inside or concavity of the upper mandible has also seven lateral rows of strong projecting teeth. The tongue, which is horny at the extremity, is armed on each side with thirteen long and sharp bony teeth, placed like those of a saw, with their points directed backwards; turned up, and viewed on its lower side, it looks very much like a human finger with its nail.

The specimen from which the figure in the plate, and the above description were taken, was shot in the Delaware, below Philadelphia, on the fifteenth of February; and on dissection proved

to be a male. The windpipe had no labyrinth, but for an inch or two before its divarication into the lungs, was inflexible, not extensible like the rest, and rather wider in diameter. The gullet had an expansion before entering the stomach; which last was remarkably strong, the two great grinding muscles being nearly five inches in diameter. The stomach was filled with fragments of the roots of reeds, and fine sand. The intestines measured eight feet in length, and were not remarkably thick. The liver was small. For the young female of this species, see Plate LXIX, fig. 5.

Latham observes that this species is very numerous at Hudson's bay; that they visit Severn river in May, and stay a fortnight, but go farther north to breed; they return to Severn Fort the beginning of September, and stay till the middle of October, when they depart for the south, and are observed to be attended by their young in flocks innumerable. They seem to occupy also the western side of America, as they were seen at Aoonalashka* as well as at Kamtschatka.† White Brant, with black tips to their wings, were also shot by captains Lewis and Clark's exploring party, near the mouth of the Columbia river, which were probably the same as the present species.§ Mr. Pennant says, "they are taken by the Siberians in nets, under which they are decoyed by a person covered with a white skin, and crawling on all-fours; when others driving them, these *stupid* birds mistaking him for their leader, follow him, when they are entangled in the nets, or led into a kind of pound made for the purpose!" We might here with propriety add—*This wants confirmation.*

* ELLIS'S Narr.

† Hist. Kamtsch.

‡ GASS'S Journal, p. 161.

HOODED MERGANSER.

MERGUS CUCULLATUS.[Plate LXIX.—Fig. 1, *Male.*]

GMEL. *Syst.* I, p. 544, No. 1.—*Ind. Orn.* p. 830, No. 5. *Gen. Syn.* III, p. 426, No. 4, pl. 101.
 —*L'Harle hupé de Virginie*, BRISS. VI, p. 258, 8.—*Le Harle couronné*, BUFF. VIII, p.
 280. *Pl. Enl.* 935 ; 936, *female*.—*Round-crested Duck*, EDW. pl. 360.—CATESBY, I, pl.
 94.—*Arct. Zool.* No. 467.—PEALE'S *Museum*, No. 2930 ; *female*, 2931.

THIS species on the seacoast is usually called the *Hairy-head*. They are more common, however, along our lakes and fresh water rivers than near the sea ; tracing up creeks, and visiting mill-ponds, diving perpetually for their food. In the creeks and rivers of the southern states they are very frequently seen during the winter. Like the *Red-breasted* they are migratory, the manners, food, and places of resort of both being very much alike.

The Hooded Merganser is eighteen inches in length, and two feet in extent ; bill blackish red, narrow, thickly toothed, and furnished with a projecting nail at the extremity ; the head is ornamented with a large circular crest, which the bird has the faculty of raising or depressing at pleasure ; the fore part of this, as far as the eye, is black, thence to the hind-head white, and elegantly tipped with black ; it is composed of two separate rows of feathers, radiating from each side of the head, and which may be easily divided by the hand ; irides golden ; eye very small ; neck black, which spreads to and over the back ; part of the lesser wing-coverts very pale ash, under which the greater coverts and secondaries form four alternate bars of black and white ; tertials long, black, and streaked down the middle with white ; the black on the back curves handsomely round in two points on the breast, which, with the whole lower parts, is pure white ; sides under the

Common from the Cape of Good Hope to the Cape of Hope. 6. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.



Engraved by J. H. B.

wings and flanks reddish brown, beautifully crossed with parallel lines of black; tail pointed, consisting of twenty feathers, of a sooty brown; legs and feet flesh colored; claws large and stout. The windpipe has a small labyrinth.

The female is rather less, the crest smaller and of a light rust or dull ferruginous color, entirely destitute of the white; the upper half of the neck a dull drab, with semicircles of lighter; the white on the wings is the same as in the male; but the tertials are shorter and have less white; the back is blackish brown; the rest of the plumage corresponds very nearly with the male.

This species is peculiar to America; is said to arrive at Hudson's Bay about the end of May; builds close to the lakes; the nest is composed of grass lined with feathers from the breast; is said to lay six white eggs. The young are yellow, and fit to fly in July.*

* HUTCHINS, as quoted by Latham.

RED-BREASTED MERGANSER.

MERGUS SERRATOR.[Plate LXIX.—Fig. 2, *Male.*]

L'Harle hupé, BRISS. VI, p. 237, 2, pl. 23; *L'Harle blanc et noir*, *Id.* p. 250, No. 4; *L'Harle noir*, *Id.* p. 251, No. 5, *young male*.—BUFF. VIII, p. 273, 277. *Pl. Enl.* 207.—BEWICK, II, p. 235.—TEMM. *Man. d'Orn.* p. 884.—*Red-breasted Goosander*, EDW. pl. 95.—MONTAGU, *Orn. Dic. Sup.*—GMEL. *Syst.* I, p. 546, *et var.*—*Ind. Orn.* p. 829, No. 4. *Gen. Syn.* III, p. 423, No. 3, *et var.*; *Id. Sup.* II, p. 337, No. 2.—*Br. Zool.* No. 261, pl. 93, *male and female*.—*Arct. Zool.* No. 466.—CUV. *Rég. An.* I, p. 540.—PEALE'S *Museum*, No. 2936.

THIS is much more common in our fresh waters than either of the preceding, and is frequently brought to the Philadelphia market from the shores of the Delaware. It is an inhabitant of both continents. In the United States it is generally migratory; though a few are occasionally seen in autumn; but none of their nests have as yet come under my notice. They also frequent the seashore, keeping within the bays and estuaries of rivers. They swim low in the water, and, when wounded in the wing, very dexterously contrive to elude the sportsman or his dog, by diving and coming up at a great distance, raising the bill only above water, and dipping down again with the greatest silence. The young males of a year old are often found in the plumage of the female; their food consists of small fry, and various kinds of shell-fish.

The Red-breasted Merganser is said by Pennant to breed on Loch Mari in the county of Ross, in North Britain; and also in the isle of Ilay. Latham informs us that it inhabits most parts of the north of Europe on the continent, and as high as Iceland; also in the Russian dominions, about the great rivers of Siberia, and the lake Baikal. Is said to be frequent in Greenland, where it breeds on the shores. The inhabitants often take it by darts thrown at

it, especially in August, being then in moult. At Hudson's bay, according to Hutches, they come in pairs about the beginning of June, as soon as the ice breaks up, and build soon after their arrival, chiefly on dry spots of ground in the islands; lay from eight to thirteen white eggs, the size of those of a duck; the nest is made of withered grass, and lined with the down of the breast. The young are of a dirty brown like young goslings. In October they all depart southward to the lakes, where they may have open water.

This species is twenty-two inches in length, and thirty-two in extent; the bill is two inches and three quarters in length, of the color of bright sealing wax, ridged above with dusky; the nail at the tip large, blackish, and overhanging; both mandibles are thickly serrated; irides red; head furnished with a long hairy crest which is often pendent, but occasionally erected, as represented in the plate; this, and part of the neck, is black glossed with green; the neck under this for two or three inches is pure white; ending in a broad space of reddish ochre, spotted with black, which spreads over the lower part of the neck and sides of the breast; shoulders, back, and tertials, deep velvety black, the first marked with a number of singular roundish spots of white; scapulars white; wing-coverts mostly white, crossed by two narrow bands of black; primaries black, secondaries white, several of the latter edged with black; lower part of the back, the rump and tail-coverts, gray, speckled with black; sides under the wings elegantly crossed with numerous waving lines of black; belly and vent white; legs and feet red; the tail dusky ash; the black of the back passes up the hind neck in a narrow band to the head.

The female is twenty-one inches in length, and thirty in extent; the crested head and part of the neck are of a dull sorrel color; irides yellow; legs and bill red; upper parts dusky slate; wings black, greater coverts largely tipped with white; secondaries nearly all white; sides of the breast slightly dusky; whole lower parts pure white; the tail is of a lighter slate than the back. The

crest is much shorter than in the male; and sometimes there is a slight tinge of ferruginous on the breast.

The windpipe of the male of this species is very curious, and differs something from that of the Goosander. About two inches from the mouth it swells out to four times its common diameter, continuing of that size for about an inch and a half. This swelling is capable of being shortened or extended; it then continues of its first diameter for two inches or more, when it becomes flattish, and almost transparent for other two inches; it then swells into a bony labyrinth of more than two inches in length by one and a half in width, over the hollow sides of which is spread a yellowish skin, like parchment. The left side of this, fronting the back of the bird, is a hard bone. The divarications come out very regularly from this at the lower end, and enter the lungs.

The intention of Nature in this extraordinary structure is probably to enable the bird to take down a supply of air to support respiration while diving; yet why should the female, who takes the same submarine excursions as the male, be entirely destitute of this apparatus?

SCAUP DUCK.

ANAS MARILA.[Plate LXIX.—Fig. 3, *Male.*]

GMEL. *Syst.* I, p. 509, No. 8.—*Ind. Orn.* p. 853, No. 54. *Gen. Syn.* III, p. 500, No. 49; *Id. Sup.* II, p. 351, No. 19.—*Le petit Morillon rayé*, BRISS. VI, p. 416, 26, A.—*Arct. Zool.* No. 498.—*Br. Zool.* No. 275.—MONTAGU, *Orn. Dic. Sup.*—BEWICK, II, p. 304.—TEMME, *Man. d'Orn.* p. 865.—*Le Millouinan*, BUFF. IX, p. 221. *Pl. Enl.* 1002.—CUV. *Règ. An.* I, p. 535.—*Anas frenata*, SPARRMAN, *Mus. Carls. fcs.* II, No. 38, *female*.—PEALE'S *Museum*, No. 2668; *female*, No. 2669.

THIS Duck is better known among us by the name of the *Blue-bill*. On the waters of the Chesapeake it is called the Black-head. It is an excellent diver; and according to Willughby feeds on a certain small kind of shell-fish called *Scaup*, whence it has derived its name. It is common both to our fresh water rivers and seashores in winter. Those that frequent the latter are generally much the fattest, on account of the greater abundance of food along the coast. It is common throughout the winter on the Delaware, particularly in those places where small snails, its favorite shell-fish, abound; feeding also, like most of its tribe, by moonlight. They generally leave us in the latter part of April, though I have met with individuals as late as the middle of May, among the salt marshes of New Jersey. Their flesh is not of the most delicate kind, yet some persons esteem it. That of the young birds is generally the tenderest and most palatable.

The length of the Blue-bill is nineteen inches, extent twenty-nine inches; bill broad, generally of a light blue, sometimes of a dusky lead color; irides bright golden, pupil very small; chin, front, crown and lores, deep black; head tumid, covered with plu-

mage of a dark glossy green, extending half way down the neck ; rest of the neck and breast black, spreading round to the back ; back and scapulars white, thickly crossed with waving lines of black ; lesser coverts dusky, powdered with veins of whitish ; outer primaries, and tertials, brownish black, the latter with a greenish gloss ; inner primaries and secondaries white, tipped with black, forming the speculum ; rump and tail-coverts black ; tail short, rounded, and of a dusky brown ; belly white, crossed near the vent with waving lines of ash ; vent black ; legs and feet dark slate. The crown of the adult male is sometimes of a changeable purple, or rather it appears either black or purple, according to its position with respect to the rays of light.

Such is the color of the bird in its perfect state. Young birds vary considerably, some having the head black mixed with gray and purple ; others the back dusky with little or no white, and that irregularly dispersed.

The female is less than the male, and has the front and lores white ; head and half of the neck blackish brown, in some specimens of a chestnut brown, particularly young females ; breast, spreading round to the back, a dark sooty brown, broadly skirted with whitish ; back and scapulars black, thinly sprinkled with grains of white, in young females umber brown ; vent whitish ; wings the same as in the male. Weight, when in good condition, upwards of two pounds and a quarter.

The windpipe of the male of this species is of large diameter ; the labyrinth similar to some others, though not of the largest kind ; it has something of the shape of a single cockle-shell ; its open side or circular rim covered with a thin transparent skin. Just before the windpipe enters this, it lessens its diameter at least two thirds, and assumes a flattish form.

The Seaup Duck is well known in England. It inhabits Iceland and the more northern parts of the continent of Europe, Lapland, Sweden, Norway, and Russia. It is also common on the

northern shores of Siberia. Is very frequent on the river Ob. Breeds in the north, and migrates southward in winter. It inhabits America as high as Hudson's bay, and retires from this last place in October.*

Pennant and Latham state that the male weighs a pound and a half; and the female two ounces more. This is undoubtedly an error, the female being less than the male, and the latter being generally the fattest. Montagu says that the species weighs sometimes as much as thirty-five ounces, which statement comes nearer the truth than that of the foregoing. On the 8th of April, of the present year, (1824,) the Editor shot, on the Delaware, an adult male which weighed two pounds and three quarters. He has frequently shot them of two pounds and a half; and on the Chesapeake, and on the coast, they are still heavier.

In the Delaware there are several favorite feeding grounds of the Blue-bill along the Jersey shore, from Burlington to Mantua creek; but the most noted spot appears to be the cove which extends from Timber creek to Eagle Point, and known by the name of Ladd's cove. Thither the Blue-bills repair in the autumn, and never quit it until they depart in the spring for the purpose of breeding, except when driven away, in the winter, by the ice. It is no uncommon circumstance to see many hundreds of these birds at once, constantly diving for food; but so shy are they, that even with the aid of a very small, and well-constructed skiff, cautiously paddled, it is difficult to approach them within gunshot. So very sagacious are they, that they appear to know the precise distance wherein they are safe; and, after the shooter has advanced within this point, they then begin to spread their lines in such a manner that, in a flock of a hundred, not more than three or four can be selected in a group at any one view. They swim low in the water; are strong feathered; and are not easily killed. When slightly

* Latham.

wounded, and unable to fly, it is almost hopeless to follow them, in consequence of their great skill in diving. Their wings being short they either cannot rise with the wind, when it blows freshly, or they are unwilling to do so, for they are invariably seen to rise against the wind. In a calm they get up with considerable fluttering.

The Blue-bills when disturbed by the fishermen along the Jersey shore, in the spring, resort to other feeding places; and they are frequently observed a short distance below the Philadelphia Navy-yard, particularly at the time when their favorite snail-shells begin to crawl up the muddy shore for the purpose of breeding. Though often seen feeding in places where they can reach the bottom with their bills, yet they seldom venture on the shore, the labor of walking appearing repugnant to their inclinations. When wounded they will never take to the land if they can possibly avoid it; and when compelled to walk they waddle along in the awkward manner of those birds whose legs, placed far behind, do not admit of a free and graceful progression.

AMERICAN WIDGEON.

ANAS AMERICANA.[Plate LXIX.—Fig. 4, *Male.*]

GMEL. *Syst.* I, p. 526, No. 97.—*Ind. Orn.* p. 861, No. 74. *Gen. Syn.* III, p. 520, No. 65.—
Le Canard Jensen, Pl. Enl. 955.—BUFF. IX, p. 174.—*Arct. Zool.* No. 502.—PEALE'S
Museum, No. 2798; *female*, 2799.

THIS is a handsomely marked and sprightly species, very common in winter along our whole coast, from Florida to Rhode Island; but most abundant in Carolina, where it frequents the rice plantations. In Martinico great flocks take short flights from one rice field to another during the rainy season, and are much complained of by the planters. The Widgeon is the constant attendant of the celebrated *Canvass-back Duck*, so abundant in various parts of the Chesapeake bay, by the aid of whose labor he has ingenuity enough to contrive to make a good subsistence. The Widgeon is extremely fond of the tender roots of that particular species of aquatic plant on which the *Canvass-back* feeds, and for which that Duck is in the constant habit of diving. The Widgeon, who never dives, watches the moment of the *Canvass-back's* rising, and before he is aware, snatches the delicious morsel from his mouth, and makes off. On this account the *Canvass-backs* and Widgeons, or, as they are called round the bay, *Bald-pates*, live in a state of perpetual contention. The only chance the latter have is to retreat, and make their approaches at convenient opportunities. They are said to be in great plenty at St. Domingo and Cayenne, where they are called *Vingeon*, or *Gingeon*. Are said sometimes to perch on trees. Feed in company, and have a sentinel on the watch, like some other birds. They feed little during the day; but in the evenings come out from their hiding places, and are then

easily traced by their particular whistle or *whew whew*. This soft note or whistle is frequently imitated with success, to entice them within gunshot. Are common in the winter months along the bays of Egg-Harbor and Cape May, and also those of the Delaware. They leave these places in April, and appear upon the coasts of Hudson's bay in May, as soon as the thaws come on, chiefly in pairs; lay there only from six to eight eggs; and feed on flies and worms in the swamps; depart in flocks in autumn.*

These birds are frequently brought to the markets of Philadelphia and Baltimore, and generally bring a good price, their flesh being excellent. They are of a lively frolicsome disposition, and with proper attention might easily be domesticated. When fat the males weigh upwards of two pounds.

The Widgeon or Bald-pate measures twenty-two inches in length, and thirty inches in extent; the bill is of a slate color, the nail black; the front and crown cream colored, sometimes nearly white, the feathers inflated; from the eye backwards to the middle of the neck behind, extends a band of deep glossy green gold and purple; throat, chin, and sides of the neck before, as far as the green extends, dull yellowish white, thickly speckled with black; breast and hind part of the neck hoary bay, running in under the wings, where it is crossed with fine waving lines of black; whole belly white; vent black; back and scapulars black, thickly and beautifully crossed with undulating lines of vinous bay; lower part of the back more dusky; tail-coverts long, pointed, whitish, crossed as the back; tail pointed, brownish ash, the two middle feathers an inch longer than the rest, and tapering; shoulder of the wing brownish ash, wing-coverts immediately below white, forming a large spot; primaries brownish ash, middle secondaries black glossed with green, forming the speculum; tertials black edged with white, between which and the beauty spot several of the secondaries are white.

* Hutchins.

The female has the whole head and neck yellowish white, thickly speckled with black; very little rufous on the breast; the back is dark brown. The young males, as usual, very much like the females during the first season, and do not receive their full plumage until the second year. They are also subject to a regular change every spring and autumn.

A few of these birds breed annually in the marshes in the neighborhood of Duck creek, in the state of Delaware. An acquaintance of the Editor's brought him thence, in the month of June, an egg, which had been taken from a nest situated in a cluster of alders; it was very much of the shape of the common Duck's egg; the color a dirty white; length two inches and a quarter, breadth one inch and five eighths. The nest contained eleven eggs.

This species is seen on the Delaware as late as the first week of May. On the thirtieth of April last, the Editor observed a large flock of them, accompanied by a few Mallards and Pintails, feeding upon the mud-flats, at the lower end of League Island, below Philadelphia. In the fresh water ponds, situated in the neighborhood of the river St. John, in East Florida, they find an abundance of food during the winter; and they become excessively fat. It is needless to add that they are excellent eating.

YOUNG FEMALE SNOW GOOSE.

ANAS HYPERBOREA.

[Plate LXIX.—Fig. 5.]

Anas cærulescens, GMEL. *Syst.* I, p. 513, No. 12.—*Ind. Orn.* p. 836, No. 13. *Blue-winged Goose*, *Gen. Syn.* III, p. 469, No. 28; *Id. Sup.* II, p. 346, No. 8.—*Arct. Zool.* No. 474.—EDWARDS, *pl.* 152.—*L'Oye sauvage de la Baye de Hudson*, BRISS. VI, p. 275, No. 5.—*L'Oie des Esquimaux*, BUFF. IX, p. 80.—PEALE'S *Museum*, No. 2636.

THE full-plumaged perfect male bird of this species has already been figured in the preceding plate, and I now hazard a conjecture, founded on the best examination I could make of the young bird here figured, comparing it with the descriptions of the different accounts above referred to, that the whole of them have been taken from the various individuals of the present, in a greater or lesser degree of approach to its true and perfect colors.*

These birds pass along our coasts, and settle in our rivers, every autumn; among thirty or forty there are seldom more than six or eight pure white, or old birds. The rest vary so much that no two are exactly alike; yet all bear the most evident marks in the particular structure of their bills, &c. of being the same identical species. A gradual change so great, as from a bird of this color to one of pure white, must necessarily produce a number of varieties, or differences, in the appearance of the plumage; but the form of the bill and legs remain the same; and any peculiarity in either is the surest mean we have to detect a species under all its various appearances. It is therefore to be regretted, that the authors above referred to in the synonymes, have paid so little attention to the singular conformation of the bill; for even in their

* See note to Snow Goose, p. 79.

description of the Snow Goose, neither that nor the internal peculiarities, are at all mentioned.

The length of the bird represented in our plate was twenty-eight inches, extent four feet eight inches; bill gibbous at the sides both above and below, exposing the teeth of the upper and lower mandibles, and furnished with a nail at the tip on both, the whole being of a light reddish purple or pale lake, except the gibbosity, which is black, and the two nails, which are of a pale light blue; nostril pervious, an oblong slit, placed nearly in the middle of the upper mandible; irides dark brown; whole head, and half of the neck, white; rest of the neck and breast, as well as upper part of the back, of a purplish brown, darkest where it joins the white, all the feathers being finely tipped with pale brown; whole wing-coverts very pale ash, or light lead color; primaries and secondaries black; tertials long, tapering, centred with black, edged with light blue, and usually fall over the wing; scapulars cinereous brown; lower parts of the back and rump of the same light ash as the wing-coverts; tail rounded, blackish, consisting of sixteen feathers edged and tipped broadly with white; tail-coverts white; belly and vent whitish, intermixed with cinereous; feet and legs of the same lake color as the bill.

This specimen was a female; the tongue was thick and fleshy, armed on each side with thirteen strong bony teeth, exactly similar in appearance, as well as in number, to those on the tongue of the male Snow Goose; the inner concavity of the upper mandible was also studded with rows of teeth. The stomach was extremely muscular, filled with some vegetable matter, and clear gravel.

With this another was shot, differing considerably in its markings, having little or no white on the head, and being smaller; its general color dark brown intermixed with pale ash, and darker below, but evidently of the same species with this.

PIED DUCK.

ANAS LABRADORA.[Plate LXIX.—Fig. 6, *Male.*]

Gmel. *Syst.* I, p. 537, No. 110.—*Ind. Orn.* p. 859, No. 67. *Gen. Syn.* III, p. 497, No. 46.
 —*Arct. Zool.* No. 488.—PEALE'S *Museum*, No. 2858; *female*, No. 2859.

THIS is rather a scarce species on our coasts, and is never met with on fresh water lakes or rivers. It is called by some gunners the Sand-shoal Duck, from its habit of frequenting sand-bars. Its principal food appears to be shell-fish, which it procures by diving. The flesh is dry, and partakes considerably of the nature of its food. It is only seen here during winter; most commonly early in the month of March a few are observed in our market. Of their particular manners, place, or mode of breeding, nothing more is known. Latham observes that a pair in the possession of Sir Joseph Banks were brought from Labrador. Having myself had frequent opportunities of examining both sexes of these birds, I find that, like most others, they are subject when young to a progressive change of color. The full-plumaged male is as follows: length twenty inches, extent twenty-nine inches; the base of the bill, and edges of both mandibles for two thirds of their length, are of a pale orange color, the rest black, towards the extremity it widens a little in the manner of the Shovellers, the sides there having the singularity of being only a soft, loose, pendulous skin; irides dark hazel; head, and half of the neck, white, marked along the crown to the hind-head with a stripe of black; the plumage of the cheeks is of a peculiar bristly nature at the points, and round the neck passes a collar of black, which spreads over the back, rump, and tail-coverts; below this color the upper part of the breast is white, extending itself over the whole scapulars,

wing-coverts, and secondaries; the primaries, lower part of the breast, whole belly, and vent, are black; tail pointed, and of a blackish hoary color; the fore part of the legs, and ridges of the toes, pale whitish ash; hind part the same, bespattered with blackish, webs black; the edges of both mandibles are largely pectinated. In young birds, the whole of the white plumage is generally strongly tinged with a yellowish cream color; in old males these parts are pure white, with the exception sometimes of the bristly pointed plumage of the cheeks, which retains its cream tint the longest, and, with the skinny part of the bill, forms two strong peculiarities of this species.

The female measures nineteen inches in length, and twenty-seven in extent; bill exactly as in the male; sides of the front white; head, chin and neck, ashy gray; upper parts of the back and wings brownish slate; secondaries white; tertials hoary; the white secondaries form a spot on the wing, bounded by the black primaries, and four hoary tertials edged with black; whole lower parts a dull ash skirted with brownish white, or clay color; legs and feet as in the male; the bill in both is marked from the nostrils backwards by a singular heart-shaped outline.

The windpipe of the male measures ten inches in length, and has four enlargements, *viz.* one immediately below the mouth, and another at the interval of an inch; it then bends largely down to the breast bone, to which it adheres by two strong muscles, and has at that place a third expansion; it then becomes flattened, and before it separates into the lungs, has a fourth enlargement much greater than any of the former, which is bony, and round, puffing out from the left side. The intestines measure six feet; the liver is remarkably large.

LONG-TAILED DUCK.

ANAS GLACIALIS.[Plate LXX.—Fig. 1, *Male.*]

GMEL. *Syst.* I, p. 529, No. 30; *A. hyemalis*, *Id.* No. 29; *Mergus furcifer*, *Id.* p. 548, No. 7.—*Ind. Orn.* p. 864, No. 82, et var.; *Mergus furcifer*, *Id.* p. 832, No. 8. *Gen. Syn.* III, p. 528, No. 73; *Id.* p. 529, young male, called the female; *Id.* p. 531, var. *A*; *Forked Merganser*, *Id. Sup.* II, p. 339, No. 5.—*Le Canard à longue queue d'Islande*, BRISS. VI, p. 379; *Le Canard à longue queue de Terre-Neuve*, *Id.* p. 382; *La Sarcelle de Ferroe*, *Id.* p. 466, pl. 40, fig. 2.—BUFF. IX, p. 202; *Id.* p. 278. *Pl. Enl.* 1008, old male; 999, yearling.—EDWARDS, pl. 280, old male; pl. 156, young male.—*Br. Zool.* No. 283. *Arct. Zool.* No. 501.—BEWICK, II, p. 327.—CUV. *Règ. An.* I, p. 533.—*Canard de Miclon*, TEMM. *Man. d'Orn.* p. 860.—MONTAGU, *Orn. Dic. Sup.*—PEALE'S *Museum*, No. 2810.

THIS Duck is very generally known along the shores of the Chesapeake bay by the name of *South Southerly*, from the singularity of its cry, something imitative of the sound of these words, and also, that when very clamorous they are supposed to betoken a southerly wind; on the coast of New Jersey they are usually called *Old Wives*. They are chiefly salt water Ducks, and seldom ramble far from the sea. They inhabit our bays and coasts during the winter only; are rarely found in the marshes, but keep in the channel, diving for small shell-fish, which are their principal food. In passing to and from the bays, sometimes in vast flocks, particularly towards evening, their loud and confused noise may be heard in calm weather at the distance of several miles. They fly very swiftly, take short excursions, and are lively restless birds. Their native regions are in the north, where great numbers of them remain during the whole year; part only of the vast family migrating south to avoid the severest rigors of that climate. They are common to the whole northern hemisphere. In the Orkneys they are met with in considerable flocks, from October to April; fre-

Illustration of various species of ducks, including the Long-tailed Duck, 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.





quent in Sweden, Lapland, and Russia ; are often found about St. Petersburg, and also in Kamtschatka. Are said to breed at Hudson's bay, making their nest among the grass near the sea, like the Eider Duck, and about the middle of June, lay from ten to fourteen bluish white eggs, the size of those of a pullet. When the young are hatched the mother carries them to the water in her bill. The nest is lined with the down of her breast, which is accounted equally valuable with that of the Eider Duck, were it to be had in the same quantity.* They are hardy birds, and excellent divers. Are not very common in England, coming there only in very severe winters ; and then but in small straggling parties ; yet are found on the coast of America as far south as Charleston in Carolina, during the winter. Their flesh is held in no great estimation, having a fishy taste. The down and plumage, particularly on the breast and lower parts of the body, are very abundant, and appear to be of the best quality.

The length of this species is twenty-two inches, extent thirty inches ; bill black, crossed near the extremity by a band of orange ; tongue downy ; iris dark red ; cheeks and frontlet dull dusky drab, passing over the eye, and joining a large patch of black on the side of the neck, which ends in dark brown ; throat and rest of the neck white ; crown tufted, and of a pale cream color ; lower part of the neck, breast, back, and wings, black ; scapulars and tertials pale bluish white, long and pointed, and falling gracefully over the wings ; the white of the lower part of the neck spreads over the back an inch or two ; the white of the belly spreads over the sides, and nearly meets at the rump ; secondaries chestnut, forming a bar across the wing ; primaries, rump, and tail-coverts, black ; the tail consists of fourteen feathers, all remarkably pointed, the two middle ones nearly four inches longer than the others, these, with the two adjoining ones, are black, the rest white ; legs and feet dusky slate.

* Latham.

On dissection, the intestines were found to measure five feet six inches. The windpipe was very curiously formed; besides the labyrinth, which is nearly as large as the end of one's thumb, it has an expansion immediately above that, of double its usual diameter, which continues for an inch and a half; this is flattened on the side next the breast, with an oblong window-like vacancy in it, crossed with five narrow bars, and covered with a thin transparent skin, like the panes of a window; another thin skin of the same kind is spread over the external side of the labyrinth, which is partly of a circular form. This singular conformation is, as usual, peculiar to the male, the female having the windpipe of nearly a uniform thickness throughout. She differs also so much in the colors and markings of her plumage as to render a figure of her in the same plate necessary; for a description of which see the following article.

We are told in the History of Cook's last voyage that this species is common at Kamtschatka; and that it "is called by the natives *A-an-gitche*, a word intended to express its cry, which is not less singular than agreeable, consisting of three distinct notes, rising at equal intervals above each other."* Latham says that it is called at Hudson's bay *Ha-ha-way*.

* Voyage of the Resolution and Discovery, vol. III, p. 346, 4to.

FEMALE LONG-TAILED DUCK.

[Plate LXX.—Fig. 2.]

PEALE'S *Museum*, No. 2811.

THE female is distinguished from the male by wanting the lengthened tertials, and the two long pointed feathers of the tail; and also by her size, and the rest of her plumage, which is as follows: length sixteen inches, extent twenty-eight inches; bill dusky; middle of the crown, and spot on the side of the neck, blackish; a narrow dusky line runs along the throat for two inches; rest of the head, and upper half of the neck, white, lower half pale vinaceous bay, blended with white; all the rest of the lower parts of the body pure white; back, scapulars, and lesser wing-coverts, bright ferruginous, centred with black, and interspersed with whitish; shoulders of the wing, and quills, black; lower part of the back the same, tinged with brown; tail pale brown ash, inner vanes of all but the two middle feathers white; legs and feet dusky slate. The legs are placed far behind, which circumstance points out the species to be great divers. In some females the upper parts are less ferruginous.

Some writers suppose the singular voice, or call, of this species, to be occasioned by the remarkable construction of its wind-pipe; but the fact, that the females are uniformly the most noisy, and yet are entirely destitute of the singularities of this conformation, overthrows the probability of this supposition.

SUMMER DUCK, OR WOOD DUCK.

ANAS SPONSA.[Plate LXX.—Fig. 3, *Male.*]

GMEL. *Syst.* I, p. 539, No. 43.—*Ind. Orn.* p. 871, No. 97. *Gen. Syn.* III, p. 546, No. 85.—*Le Canard d'Eté*, BRISS. VI, p. 351, 11, pl. 32, fig. 2.—*Le beau Canard huppé*, BUFF. IX, p. 245. *Pl. Enl.* 980; *female*, 981.—*Summer Duck*, CATESBY, I, pl. 97.—EDW. pl. 101.—*Arct. Zool.* No. 493.—PEALE'S *Museum*, No. 2872; *female*, 2873.

THIS most beautiful of all our Ducks, has probably no superior among its whole tribe for richness and variety of colors. It is called the *Wood Duck*, from the circumstance of its breeding in hollow trees; and the *Summer Duck*, from remaining with us chiefly during the summer. It is familiarly known in every quarter of the United States, from Florida to Lake Ontario, in the neighborhood of which latter place I myself met with it in October. It rarely visits the seashore, or salt marshes; its favorite haunts being the solitary deep and muddy creeks, ponds, and mill-dams of the interior, making its nest frequently in old hollow trees that overhang the water.

The Summer Duck is equally well known in Mexico and many of the West India Islands. During the whole of our winters they are occasionally seen in the states south of the Potomac. On the tenth of January I met with two on a creek near Petersburg in Virginia. In the more northern districts, however, they are migratory. In Pennsylvania the female usually begins to lay late in April or early in May. Instances have been known where the nest was constructed of a few sticks laid in a fork of the branches; usually, however, the inside of a hollow tree is selected for this purpose. On the eighteenth of May I visited a tree containing the nest of a Summer Duck, on the banks of Tuckahoe

river, New Jersey. It was an old grotesque White Oak, whose top had been torn off by a storm. It stood on the declivity of the bank, about twenty yards from the water. In this hollow and broken top, and about six feet down, on the soft decayed wood, lay thirteen eggs, snugly covered with down, doubtless taken from the breast of the bird. These eggs were of an exact oval shape, less than those of a hen, the surface exceedingly fine grained, and of the highest polish, and slightly yellowish, greatly resembling old polished ivory. The egg measured two inches and an eighth by one inch and a half. On breaking one of them, the young bird was found to be nearly hatched, but dead, as neither of the parents had been observed about the tree during the three or four days preceding; and were conjectured to have been shot.

This tree had been occupied, probably by the same pair, for four successive years, in breeding time; the person who gave me the information, and whose house was within twenty or thirty yards of the tree, said that he had seen the female, the spring preceding, carry down thirteen young, one by one, in less than ten minutes. She caught them in her bill by the wing or back of the neck, and landed them safely at the foot of the tree, whence she afterwards led them to the water. Under this same tree, at the time I visited it, a large sloop lay on the stocks, nearly finished; the deck was not more than twelve feet distant from the nest, yet notwithstanding the presence and noise of the workmen, the Ducks would not abandon their old breeding place, but continued to pass out and in as if no person had been near. The male usually perched on an adjoining limb, and kept watch while the female was laying; and also often while she was sitting. A tame goose had chosen a hollow space at the root of the same tree, to lay and hatch her young in.

The Summer Duck seldom flies in flocks of more than three or four individuals together, and most commonly in pairs, or singly. The common note of the Drake is *peet, peet*; but, when standing

centincl, he sees danger, he makes a noise not unlike the erowing of a young cock, *oe eek ! oe eek !* Their food consists principally of acorns, seeds of the wild oats, and insects. Their flesh is inferior to that of the Blue-winged Teal. They are frequent in the markets of Philadelphia.

Among other gaudy feathers with which the Indians ornament the Calumet or pipe of Peace, the skin of the head and neck of the Summer Duck is frequently seen covering the stem.

This beautiful bird has often been tamed, and soon becomes so familiar as to permit one to stroke its back with the hand. I have seen individuals so tamed in various parts of the Union. Captain Boyer, Collector of the port of Havre-de-Grace, informed me that about forty years ago, a Mr. Nathan Nicols, who lived on the west side of Gunpowder Creek, had a whole yard swarming with Summer Ducks, which he had tamed and completely domesticated, so that they bred and were as familiar as any other tame fowls ; that he (Capt. Boyer) himself saw them in that state, but did not know what became of them. Latham says that they are often kept in European menageries, and will breed there.*

The Wood Duck is nineteen inches in length, and two feet four inches in extent ; bill red, margined with black ; a spot of black lies between the nostrils, reaching nearly to the tip, which is also of the same color, and furnished with a large hooked nail ; eye very large, iris orange red ; front, crown, and pendent crest, rich glossy bronze green ending in violet, elegantly marked with a line of pure white running from the upper mandible over the eye, and with another band of white proceeding from behind the eye, both mingling their long pendent plumes with the green and violet ones, producing a rich effect ; cheeks and sides of the upper neck violet ; chin, throat, and collar round the neck, pure white, curving up, in the form of a crescent, nearly to the posterior part of

* Gen. Syn. III, p. 547.

the eye; the white collar is bounded below with black; breast dark violet brown, marked on the fore part with minute triangular spots of white, increasing in size until they spread into the white of the belly; each side of the breast is bounded by a large crescent of white, and that again by a broader one of deep black; sides under the wings thickly and beautifully marked with fine undulating parallel lines of black, on a ground of yellowish drab; the flanks are ornamented with broad alternate semicircular bands of black and white; sides of the vent rich light violet; tail-coverts long, of a hair-like texture at the sides, over which they descend, and of a deep black glossed with green; back dusky bronze, reflecting green; scapulars black; tail tapering, dark glossy green above, below dusky; primaries dusky, silvery hoary without, tip with violet blue; secondaries greenish blue, tip with white; wing-coverts violet blue tip with black; vent dusky; legs and feet yellowish red, in some pale yellow ochre, webs dusky; claws strong and hooked.

The above is as accurate a description as I can give of a very perfect specimen now before me, from which the figure in the plate was faithfully copied.

The female is between seventeen and eighteen inches in length, and has the head slightly crested, crown dark purple, behind the eye a bar of white; bill white in the centre, largely ridged and margined with dark horn color; irides dark reddish hazel; eyelids bright yellow; chin, and throat for two inches, also white; head and neck dark drab; breast dusky brown, marked with large triangular spots of white; back dark glossy bronze brown, with some gold and greenish reflections. Speculum of the wings nearly the same as in the male, but the fine penciling of the sides, and the long hair-like tail-coverts, are wanting; the tail is also shorter; legs and feet pale greenish olive, webs dusky.

GREEN-WINGED TEAL.

ANAS CRECCA.[Plate LXX.—Fig. 4, *Male.*]

GMEL. *Syst.* 1, p. 532, No. 33 ; *A. Carolinensis*, *Id.* p. 533, No. 103.—*Ind. Orn.* p. 872, No. 100 ; p. 874, No. 101. *Common Teal*, *Gen. Syn.* 3, p. 551, No. 88 ; *American Teal*, *Id.* p. 554, No. 90.—*European Teal*, *Arct. Zool.* vol. 2, p. 305, P. 4to. ; *American Teal*, *Id.* No. 504. *Br. Zool.* No. 290.—BEWICK, II, p. 338.—*La petite Sarcelle*, BRISS. VI, p. 436, No. 32, pl. 40, fig. 1.—BUFF. IX, p. 265, pl. 17, 18. *Pl. Enl.* 947.—*Canard Sarcelle d'hiver*, TEMM. *Man. d'Orn.* p. 846.—WILLUGHBY, p. 377, § VI.—PEALE'S *Museum*, No. 2832 ; *female*, 2833.

THE naturalists of Europe have designated this little Duck by the name of the American Teal, as being a species different from their own. On an examination, however, of the figure and description of the European Teal by the ingenious and accurate Bewick, and comparing them with the present, no difference whatever appears in the length, extent, color, or markings of either, but what commonly occurs among individuals of any other tribe ; both undoubtedly belong to one and the same species.

This, like the preceding, is a fresh water Duck, common in our markets in autumn and winter ; but rarely seen here in summer. It frequents ponds, marshes, and the reedy shores of creeks and rivers. Is very abundant among the rice plantations of the southern states ; flies in small parties, and feeds at night. Associates often with the Mallard, feeding on the seeds of various kinds of grasses and water plants, and also on the tender leaves of vegetables. Its flesh is accounted excellent.

The Green-winged Teal is fifteen inches in length, and twenty-four inches in extent ; bill black ; irides pale brown ; lower eye lid whitish ; head glossy reddish chestnut ; from the eye backwards to the nape runs a broad band of rich silky green, edged above and

below by a fine line of brownish white, the plumage of the nape ends in a kind of pendent crest of a deep shining purplish black; chin blackish; below the chestnut, the neck, for three quarters of an inch, is white, beautifully crossed with circular undulating lines of black; back, scapulars, and sides of the breast, white, thickly crossed in the same manner; breast elegantly marked with roundish or heart-shaped spots of black on a pale vinaceous ground, variegated with lighter tints; belly white; lower part of the vent feathers black; sides under the wings, pale reddish cream; the plumage of a fine silky texture, and superbly marked with undulating lines of ash and white; lesser wing-coverts brown ash, greater tip with reddish cream; the first five secondaries deep velvety black, the next five resplendent green, forming the speculum or beauty spot, which is bounded above by pale buff, below by white, and on each side by deep black; primaries ashy brown; tail pointed, eighteen feathers, dark drab; legs and feet flesh colored. In some a few circular touches of white appear on the breast, near the shoulder of the wing. The windpipe has a small bony labyrinth where it separates into the lungs; the intestines measure three feet six inches, and are very small and tender. In some specimens the legs and feet are pale ash.

The female wants the chestnut bay on the head, and the band of rich green through the eye, these parts being dusky white speckled with black; the breast is gray brown, thickly sprinkled with blackish, or dark brown; the back dark brown, waved with broad lines of brownish white; wing nearly the same as in the male.

This species is said to breed at Hudson's bay, and to have from five to seven young at a time.* In France it remains throughout the year, and builds in April, among the rushes on the edges of ponds. It has been lately discovered to breed also in England, in the mosses about Carlisle.† It is not known to breed in any part of the United States.

* Latham.

† Bewick.

CANVASS-BACK DUCK.

ANAS VALLISNERIA.[Plate LXX.—Fig. 5, *Male.*]*Bull-neck Duck*, LAWSON'S *Carolina*, p. 150.—PEALE'S *Museum*, No. 2816 ; *female*, 2817.

THIS celebrated American species, as far as can be judged from the best figures and descriptions of foreign birds, is altogether unknown in Europe. It approaches nearest to the Pochard of England, *Anas ferina*, but differs from that bird in being superior in size and weight, in the greater magnitude of its bill, and the general whiteness of its plumage. A short comparison of the two will elucidate this point. The Canvass-back measures two feet in length, by three feet in extent, and when in the best order weighs three pounds and upwards. The Pochard, according to Latham and Bewick, measures nineteen inches in length, and thirty in extent, and weighs one pound twelve or thirteen ounces. The latter writer says of the Pochard, "the plumage above and below is wholly covered with prettily freckled slender dusky threads disposed transversely in close set zigzag lines, on a pale ground, more or less shaded off with ash;" a description much more applicable to the bird figured beside it, the *Red-head*, and which very probably is the species meant. In the figure of the Pochard given by Mr. Bewick, who is generally correct, the bill agrees very well with that of our Red-head; but is scarcely half the size and thickness of that of the Canvass-back; and the figure in the *Planches Enluminées* corresponds in that respect with Bewick's. In short, either these writers are egregiously erroneous in their figures and descriptions, or the present duck was altogether unknown to them. Considering the latter supposition the more

probable of the two, I have designated this as a new species, and shall proceed to detail some particulars of its history.

The Canvass-back Duck arrives in the United States from the north about the middle of October ; a few descend to the Hudson and Delaware, but the great body of these birds resort to the numerous rivers belonging to, and in the neighborhood of, the Chesapeake bay, particularly the Susquehannah, the Patapsco, Potomac, and James' rivers, which appear to be their general winter rendezvous. Beyond this, to the south, I can find no certain accounts of them. At the Susquehannah they are called *Canvass-backs*, on the Potomac *White-backs*, and on James' river *Sheldrakes*. They are seldom found at a great distance up any of these rivers, or even in the salt water bay ; but in that particular part of tide water where a certain grass-like plant grows, on the roots of which they feed. This plant, which is said to be a species of *Vallisneria*,* grows on fresh water shoals of from seven to nine feet (but never where these are occasionally dry), in long narrow grass-like blades of four or five feet in length ; the root is white, and has some resemblance to small celery. This grass is in many places so thick that a boat can with difficulty be rowed through it, it so impedes the oars. The shores are lined with large quantities of it torn up by the Ducks, and drifted up by the winds, lying like hay in wind-rows. Wherever this plant grows in abundance the Canvass-backs may be expected, either to pay occasional visits, or to make it their regular residence during the winter. It occurs in some parts of the Hudson ; in the Delaware near Gloucester, four or five miles below Philadelphia ; and in most of the rivers that fall into the Chesapeake ; to each of which particular places these Ducks resort ; while in waters unprovided with this nutritive plant they are altogether unknown.

On the first arrival of these birds in the Susquehannah, near Havre-de-Grace, they are generally lean ; but such is the abun-

* The *Vallisneria Americana* of authors.

dance of their favorite food, that towards the beginning of November they are in pretty good order. They are excellent divers, and swim with great speed and agility. They sometimes assemble in such multitudes as to cover several acres of the river, and when they rise suddenly, produce a noise resembling thunder. They float about these shoals, diving and tearing up the grass by the roots, which is the only part they eat. They are extremely shy, and can rarely be approached unless by stratagem. When wounded in the wing they dive to such prodigious distances, and with such rapidity, continuing it so perseveringly, and with such cunning and active vigor, as almost always to render the pursuit hopeless. From the great demand for these Ducks, and the high price they uniformly bring in market, various modes are practised to get within gunshot of them. The most successful way is said to be, decoying them to the shore by means of a dog, while the gunner lies closely concealed in a proper situation. The dog, if properly trained, plays backwards and forwards along the margin of the water, and the Ducks observing his manœuvres, enticed perhaps by curiosity, gradually approach the shore, until they are sometimes within twenty or thirty yards of the spot where the gunner lies concealed, and from which he rakes them, first on the water and then as they rise. This method is called *tolling them in*. If the Ducks seem difficult to decoy, any glaring object, such as a red handkerchief, is fixed round the dog's middle, or to his tail, and this rarely fails to attract them. Sometimes by moonlight the sportsman directs his skiff towards a flock whose position he had previously ascertained, keeping within the projecting shadow of some wood, bank, or headland, and paddles along so silently and imperceptibly as often to approach within fifteen or twenty yards of a flock of many thousands, among which he generally makes great slaughter.

Many other stratagems are practised, and indeed every plan that the ingenuity of the experienced sportsman can suggest, to

approach within gunshot of these birds ; but of all the modes pursued, none intimidate them so much as shooting them by night ; and they soon abandon the place where they have been thus repeatedly shot at. During the day they are dispersed about ; but towards evening collect in large flocks, and come into the mouths of creeks, where they often ride as at anchor, with their head under their wing, asleep, there being always sentinels awake ready to raise an alarm on the least appearance of danger. Even when feeding and diving in small parties, the whole never go down at one time, but some are still left above on the look-out.

When the winter sets in severely, and the river is frozen, the Canvass-backs retreat to its confluence with the bay, occasionally frequenting air holes in the ice, which are sometimes made for the purpose, immediately above their favorite grass, to entice them within gunshot of the hut or bush which is usually fixed at a proper distance, and where the gunner lies concealed, ready to take advantage of their distress. A Mr. Hill, who lives near James' river, at a place called Herring Creek, informed me, that one severe winter he and another person broke a hole in the ice about twenty by forty feet, immediately over a shoal of grass, and took their stand on the shore in a hut of brush, each having three guns well loaded with large shot. The Ducks, which were flying up and down the river in great extremity, soon crowded to this place, so that the whole open space was not only covered with them, but vast numbers stood on the ice around it. They had three rounds, firing both at once, and picked up eighty-eight Canvass-backs, and might have collected more had they been able to get to the extremity of the ice after the wounded ones. In the severe winter of 1779-80, the *Vallisneria* was almost wholly destroyed in James' river. In the month of January the wind continued to blow from W. N. W. for twenty-one days, which caused such low tides in the river that the Duck-grass froze to the ice every where, and a thaw coming on suddenly, the whole was raised by the roots and carried

off by the fresh. The next winter a few of these Ducks were seen, but they soon went away again; and for many years after, they continued to be scarce; and even to the present day, in the opinion of my informant, have never been so plenty as before.

The *Canvass-back*, in the rich juicy tenderness of its flesh, and its delicacy of flavor, stands unrivalled by the whole of its tribe in this or perhaps any other quarter of the world. Those killed in the waters of the Chesapeake are generally esteemed superior to all others, doubtless from the great abundance of their favorite food which these rivers produce. At our public dinners, hotels, and particular entertainments, the Canvass-backs are universal favorites. They not only grace but dignify the table, and their very name conveys to the imagination of the eager epicure the most comfortable and exhilarating ideas. Hence on such occasions it has not been uncommon to pay from one to three dollars a pair for these Ducks; and, indeed, at such times, if they can they must be had, whatever may be the price.

The Canvass-back will feed readily on corn, especially wheat; and may be decoyed to particular places by baiting them with that grain for several successive days. Some few years since a vessel loaded with wheat was wrecked near the entrance of Great Egg-Harbor, in the autumn, and went to pieces. The wheat floated out in vast quantities; and the whole surface of the bay was in a few days covered with Ducks of a kind altogether unknown to the people of that quarter. The gunners of the neighborhood collected in boats, in every direction, shooting them; and so successful were they, that, as Mr. Beasley informed me, two hundred and forty were killed in one day, and sold among the neighbors, at twelve and a half cents a piece, without the feathers. The wounded ones were generally abandoned, as being too difficult to be come up with. They continued about for three weeks, and during the greater part of that time a continual cannonading was heard from every quarter. The gunners called them *Sea Ducks*.

They were all *Canvass-backs*, at that time on their way from the north, when this floating feast attracted their attention, and for a while arrested them in their course. A pair of these very Ducks I myself bought in Philadelphia market at the time, from an Egg-Harbor gunner, and never met with their superior either in weight or excellence of flesh. When it was known among those people the loss they had sustained in selling for twenty-five cents what would have brought them from a dollar to a dollar and a half per pair, universal surprise and regret were naturally enough excited.

The *Canvass-back* is two feet long, and three feet in extent, and when in good order weighs three pounds and a half; the bill is large, rising high in the head, three inches in length, and one inch and three eighths thick at the base, of a glossy black; eye very small, irides dark red; cheeks and forepart of the head blackish brown; rest of the head and greater part of the neck bright glossy reddish chestnut, ending in a broad space of black that covers the upper part of the breast, and spreads round to the back; back, scapulars, and tertials, white, faintly marked with an infinite number of transverse waving lines or points, as if done with a pencil; whole lower parts of the breast, also the belly, white, slightly penciled in the same manner, scarcely perceptible on the breast, pretty thick towards the vent; wing-coverts gray, with numerous specks of blackish; primaries and secondaries pale slate, two or three of the latter of which, nearest the body, are finely edged with deep velvety black, the former dusky at the tips; tail very short, pointed, consisting of fourteen feathers, of a hoary brown; vent and tail-coverts black; lining of the wing white; legs and feet very pale ash, the latter three inches in width, a circumstance which partly accounts for its great powers of swimming.

The female is somewhat less than the male, and weighs three pounds; the crown is blackish brown, cheeks and throat of a pale drab; neck dull brown; breast, as far as the black extends on the male, dull brown, skirted in places with pale drab; back dusky

white, crossed with fine waving lines ; belly of the same dull white, penciled like the back ; wings, feet, and bill, as in the male ; tail-coverts dusky, vent white, waved with brown.

The windpipe of the male has a large flattish concave labyrinth, the ridge of which is covered with a thin transparent membrane ; where the trachea enters this it is very narrow, but immediately above swells to three times that diameter. The intestines are wide and measure five feet in length.

It is a circumstance calculated to excite our surprise, that the Canvass-back, one of the commonest species of our country, a Duck which frequents the waters of the Chesapeake in flocks of countless thousands, should yet have been either overlooked by the naturalists of Europe, or confounded with the Pochard, a species whose characters are so obviously different. But that this is the fact the Editor feels well assured, since he has carefully examined every author of repute, to which he has had access, and has not been enabled to find any description which will correspond to the subject before us. The species, then, we hope, will stand as Wilson's own ; and it is no small addition to the fame of the American Ornithology that it contains the first scientific account of the finest Duck that any country can boast of.

The Canvass-back frequents the Delaware in considerable numbers. The *Vallisneria* grows pretty abundantly, in various places, from Burlington, New Jersey, to Eagle Point, a few miles below Philadelphia. Wherever this plant is found there will the Ducks be ; and they will frequently venture within reach of their enemies' weapons rather than abstain from the gratification of their appetite for this delicious food. The shooters in the neighborhood of Philadelphia for many years were in the habit of supplying our markets with this species, which always bore the name of Red-heads or Red-necks ; and their ignorance of its being the true Canvass-back was cunningly fostered by our neighbors of the Chesapeake, who boldly asserted that only their waters were favored

with this species, and that all other Ducks, which seemed to claim affinity, were a spurious race, unworthy of consanguinity. Hence at the same time when a pair of legitimate Canvass-backs, proudly exhibited from the Mail-coach, from Havre-de-Grace, readily sold for two dollars and fifty cents, a pair of the identical species, as fat, as heavy, as delicious, but which had been unfortunately killed in the Delaware, brought only one dollar; and the lucky shooter thought himself sufficiently rewarded in obtaining twenty-five per cent. more for his *Red-necks* than he could obtain for a pair of the finest Mallards that our waters could afford. But the delusion is now passed; every shooter and huckster knows the distinctive characters of the Canvass-back and the Red-head; and prejudice no longer controverts the opinion that this species is a common inhabitant of the Delaware; and epicures are compelled to confess that they can discern no difference between our Canvass-back, when in season, and that from Spesutie, or Carrol's Island, the notorious shooting ground of the *Bon-vivants* of Baltimore.

The last mentioned place, though commonly termed an island, is properly a peninsula, situated on the western side of the Chesapeake bay, a few miles from Baltimore. It is a spot highly favorable for the shooting of water fowl. It extends for a considerable distance into the bay; and, being connected to the main land by a narrow neck, the shooters are enabled to post themselves advantageously on the isthmus, and intercept the fowl, who, in roving from one feeding ground to another, commonly prefer crossing the land to taking a long flight around the peninsula. In calm weather the shooters have not much luck, the Ducks keeping out in the coves, and, when they do move, flying high; but should a fresh breeze prevail, especially one from the eastward, rare sport may be anticipated; and it is no unusual circumstance for a party of four or five gentlemen, returning home, after a couple of days' excursion, with fifty or sixty Canvass-backs, besides some other Ducks of inferior note. The greatest flight of Ducks commonly takes place

between daybreak and sunrise, and while it lasts the roaring of the fowling pieces, the bustle of the sportsmen, the fluttering of the fowl, and the plunging of the dogs, constitute a scene productive of intense interest. The dog in most esteem for this amusement is a large breed, partaking of the qualities of the Newfoundland variety. They trust altogether to their sight, and it is astonishing what sagacity they will manifest in watching a flock of Ducks that had been shot at, and marking the birds that drop into the water, even at a considerable distance off. When at fault, the motion of their master's hand is readily obeyed by them; and when unable to perceive the object of their search, they will raise themselves in the water for this purpose, and will not abandon the pursuit while a chance remains of succeeding. A generous, well-trained dog, has been known to follow a Duck for more than half a mile; and, after having been long beyond the reach of seeing or hearing his master, to return puffing and snorting under his load, which seemed sufficient to drag him beneath the waves. The Editor having been an eye-witness of similar feats of these noble animals, can therefore speak with confidence as to the fact.

On the Delaware but few of this species, comparatively, are obtained, for the want of proper situations whence they may be shot on the wing. To attempt to approach them, in open day, with a boat, is unproductive labor, except there be floating ice in the river, at which time, if the shooter clothe himself in white, and paint his skiff of the same color, he may so deceive the Ducks as to get within a few feet of them. At such times it is reasonable to suppose that these valuable birds get no quarter. But there is one caution to be observed, which experienced sportsmen never omit: it is to go always *with* the current; a Duck being sagacious enough to know that a lump of ice seldom advances *against* the stream. They are often shot, with us, by moonlight, in the mode related in the foregoing account; the first pair the Editor ever killed was in

this manner ; he was then a boy, and was not a little gratified with his uncommon acquisition.

As the *Vallisneria* will grow in all our fresh water rivers, in coves, or places not affected by the current, it would be worth the experiment to transplant this vegetable in those waters where it at present is unknown. There is little doubt the Canvass-backs would, by this means, be attracted ; and thus would afford the lovers of good eating an opportunity of tasting a delicacy, which, in the opinion of many, is unrivalled by the whole feathered race.

In the spring, when the Duck-grass becomes scarce, the Canvass-backs are compelled to subsist upon other food, particularly shell-fish ; their flesh then loses its delicacy of flavor, and although still fat, it is not esteemed by epicures ; hence the Ducks are not much sought after ; and are permitted quietly to feed until their departure for the north.

Our author states that he had had no certain accounts of this species to the southward of James' river, Virginia. In the month of January, 1818, the Editor saw many hundreds of these Ducks feeding in the Savannah river, not far from Tybee light-house. They were known by the name of Canvass-backs ; but the inhabitants of that quarter considered them as fishing Ducks, not fit to be eaten : so said the pilot of the ship which bore the Editor to Savannah. But a pair of these birds having been served up at table, after his arrival, he was convinced, by their delicate flavor, that they had lost little by their change of residence, but still maintained their superiority over all the water fowl of that region. In the river St. John, in East Florida, the Editor also saw a few scattered individuals of this species ; but they were too shy to be approached within gunshot.

The Canvass-backs swim very low, especially when fat ; and when pursued by a boat, they stretch themselves out in lines, in the manner of the Scaup Ducks, so that some of the flock are always enabled to reconnoitre the paddler, and give information, to the

rest, of his motions. When the look-out Ducks apprehend danger, the stretching up of their necks is the signal, and immediately the whole squadron, facing to the wind, rise with a noise which may be heard at the distance of half a mile.

The guns employed in Canvass-back shooting should be of a medium length and caliber; and of the most approved patent breech. The Editor's experience has taught him that a barrel of three feet, seven inches, with a bore short of seven eighths of an inch, is quite as effective as one of greater dimensions; and is certainly more convenient. It may appear a work of supererogation to speak of the quality of powder to be used in this kind of sporting; and yet so often are shooters deceived in this article, either through penuriousness or negligence, that a word of advice may not be unprofitable. One should obtain the best powder, without regard to price; it being an indisputable maxim in shooting, but which is too often forgotten, that the best is always the cheapest.

RED-HEADED DUCK.

ANAS FERINA.[Plate LXX.—Fig. 6, *Male.*]

GMEL. *Syst.* I, p. 530, No. 31; *A. rufa*, *Id.* p. 515, No. 71.—*Ind. Orn.* p. 862, No. 77; p. 863, No. 78. *Rufous-necked Duck*, *Gen. Syn.* III, p. 477, No. 32; *Pochard*, *Id.* p. 523, No. 68.—*Red-head Duck*, *LAWSON'S Carolina*, p. 150.—BEWICK, II, p. 320.—*Arct. Zool.* No. 491. *Br. Zool.* No. 284.—*Le Millouin*, *BRISS.* VI, p. 384, No. 19, pl. 35, fig. 1; *Le Millouin noir*, *Id.* p. 389, *A.* young male?; *Le Millouin du Mexique*, *Id.* p. 390, No. 20, female?—BUFF. IX, p. 216. *Pl. Enl.* 803.—TEMME. *Man. d'Orn.* p. 869.—WIL-LUGHBY, p. 367, § XI.—MONTAGU, *Orn. Dic.*—PEALE'S *Museum*, No. 2710; female, No. 2711.

THIS is a common associate of the Canvass-back, frequenting the same places, and feeding on the *stems* of the same grass, the latter eating only the *roots*; its flesh is very little inferior; and it is often sold in our markets for the Canvass-back, to those unacquainted with the characteristic marks of each. Anxious as I am to determine precisely whether this species be the Red-headed Wigeon, Pochard, or Dun bird* of England, I have not been able to ascertain the point to my own satisfaction; though I think it very probably the same, the size, extent, and general description of the Pochard, agreeing pretty nearly with this.

The Red-head is twenty inches in length, and two feet six inches in extent; bill dark slate, sometimes black, two inches long, and seven eighths of an inch thick at the base, furnished with a large broad nail at the extremity; irides flame-colored; plumage of the head long, velvety, and inflated, running high above the base of the bill; head, and about two inches of the

* Local names given to one and the same Duck. It is also called the *Poker*.

neck, deep glossy reddish chestnut ; rest of the neck and upper part of the breast black, spreading round to the back ; belly white, becoming dusky towards the vent, by closely marked undulating lines of black ; back and scapulars bluish white, rendered gray by numerous transverse waving lines of black ; lesser wing-coverts brownish ash ; wing quills very pale slate, dusky at the tips ; lower part of the back, and sides under the wings, brownish black, crossed with regular zigzag lines of whitish ; vent, rump, tail, and tail-coverts, black ; legs and feet dark ash.

The female has the upper part of the head dusky brown, rest of the head, and part of the neck, a light sooty brown ; upper part of the breast ashy brown, broadly skirted with whitish ; back dark ash, with little or no appearance of white penciling ; wings, bill, and feet, nearly alike in both sexes.

This Duck is sometimes met with in the rivers of North and South Carolina, and also in those of New Jersey and New York ; but generally in fresh water, and usually at no great distance from the sea. Is most numerous in the waters of the Chesapeake ; and with the connoisseurs in good eating, ranks next in excellence to the Canvass-back. Its usual weight is about two pounds, avoirdupois.

The Red-head leaves the Chesapeake bay, and its tributary streams, in March, and is not seen until late in October.

The male of this species has a large flat bony labyrinth on the bottom of the windpipe, very much like that of the Canvass-back, but smaller ; over one of its concave sides is spread an exceeding thin transparent skin, or membrane. The intestines are of great width, and measure six feet in length.

MALLARD.

ANAS BOSCHAS.[Plate LXX.—Fig. 7, *Male.*]

GMEL. *Syst.* I, p. 538, No. 40.—*Ind. Orn.* p. 850, No. 49. *Gen. Syn.* III, p. 489, No. 43.
 —*Arct. Zool.* No. 494. *Br. Zool.* No. 279.—TEMM. *Man. d'Orn.* p. 835.—BEWICK, II,
 p. 291.—*Le Canard Sauvage*, BRISS. VI, p. 318, 4.—BUFF. IX, p. 115, pl. 7, 8. *Pl. Enl.*
 776, male; 777, female.—WILLUGHBY, p. 371.—CUV. *Règ. An.* I, p. 537.—PEALE'S
Museum, No. 2864; female, No. 2865.

THE Mallard is so universally known as scarcely to require a description. It measures twenty-four inches in length, by three feet in extent; and weighs, when in good condition, nearly three pounds and a half;* the bill is greenish yellow; irides hazel; front, crown and throat, deep black; the rest of the head, and part of the neck, deep glossy changeable green, ending in a narrow interrupted collar of white; the remainder of the neck and breast is of a dark purplish chestnut; lesser wing-coverts brown ash, greater crossed near the extremities with a band of white, and tip with another of deep velvety black; below this lies the speculum, or beauty spot, of a rich and splendid light purple, with green and violet reflections, bounded on every side with black; quills pale

* In the first edition it is stated that the Mallard weighs upwards of two pounds and a half. It is to be presumed that our author never weighed one himself, otherwise this error would not have escaped him. According to Latham the usual weight is two pounds and a half; but he observes that several were taken in Suffolk of the weight of three pounds and a half. Pennant says that he had seen one of three pounds one ounce. The Editor shot a male on the Delaware, in the month of April, which weighed three pounds five ounces; and he saw them in Florida, in the winter, when they are fatter than in the spring, of greater weight. In the month of March he shot two females, in East Florida, weighing two pounds each.

brownish ash ; lining of the wings white ; back brown, skirted with paler ; scapulars whitish, crossed with fine undulating lines of black ; rump and tail-coverts black, glossed with green ; tertials very broad and pointed at the ends ; tail consisting of twenty feathers, whitish, centred with brown ash, the four middle feathers excepted, which are narrow, black, glossed with green, and remarkably concave, the two upper ones curling in the form of a circle, the other two forming a semicircle ; belly and sides a fine gray, crossed by an infinite number of fine waving lines, stronger and more deeply marked as they approach the vent ; legs and feet orange red.

The female has the plumage of the upper parts dark brown, broadly bordered with brownish yellow ; and the lower parts yellow ochre, spotted and streaked with deep brown ; the chin and throat for about two inches, plain yellowish white ; wings, bill, and legs, nearly as in the male. When fat weighs upwards of two pounds.

The windpipe of the male has a bony labyrinth, or bladder-like knob, puffing out from the left side. The intestines measure six feet, and are as wide as those of the Canvas-back. The windpipe is of uniform diameter until it enters the labyrinth.

This is the original stock of the common domesticated Duck, reclaimed, immemorially, from a state of nature, and now become so serviceable to man. In many individuals the general garb of the tame Drake seems to have undergone little or no alteration ; but the stamp of slavery is strongly imprinted in his dull indifferent eye, and grovelling gait ; while the lofty look, long tapering neck, and sprightly action of the former, bespeak his native spirit and independence.

The common Wild Duck is found in every fresh water lake and river of the United States in winter ; but seldom frequents the seashores or salt marshes. Their summer residence is in the north, the great nursery of this numerous genus. Instances have been

known of some solitary pairs breeding here in autumn. In England these instances are more common. The nest is usually placed in the most solitary recesses of the marsh, or bog, amidst coarse grass, reeds, and rushes, and generally contains from twelve to sixteen eggs of a dull greenish white. The young are led about by the mother in the same manner as those of the tame Duck; but with a superior caution, a cunning and watchful vigilance, peculiar to her situation. The male attaches himself to one female, as among other birds in their native state, and is the guardian and protector of her and her feeble brood. The Mallard is numerous in the rice fields of the southern states during winter; many of the fields being covered with a few inches of water, and the scattered grains of the former harvest lying in abundance, the Ducks swim about and feed at pleasure.

The flesh of the common Wild Duck is in general and high estimation; and the ingenuity of man, in every country where it frequents, has been employed in inventing stratagems to overreach these wary birds, and procure a delicacy for the table. To enumerate all these various contrivances would far exceed our limits; a few, however, of the most simple and effective may be mentioned.

In some ponds frequented by these birds, five or six wooden figures, cut and painted so as to represent Ducks, and sunk, by pieces of lead nailed on their bottoms, so as to float at the usual depth on the surface, are anchored in a favorable position for being raked from a concealment of brush, &c. on shore. The appearance of these usually attracts passing flocks, which alight, and are shot down. Sometimes eight or ten of these painted wooden Ducks are fixed on a frame in various swimming postures, and secured to the bow of the gunner's skiff, projecting before it in such a manner that the weight of the frame sinks the figures to their proper depth; the skiff is then drest with sedge or coarse grass in an artful manner, as low as the water's edge; and under cover

of this, which appears like a party of ducks swimming by a small island, the gunner floats down sometimes to the very skirts of a whole congregated multitude, and pours in a destructive and repeated fire of shot among them. In winter, when detached pieces of ice are occasionally floating in the river, some of the gunners on the Delaware paint their whole skiff or canoe white, and laying themselves flat at the bottom, with their hand over the side silently managing a small paddle, direct it imperceptibly into or near a flock, before the ducks have distinguished it from a floating mass of ice, and generally do great execution among them. A whole flock has sometimes been thus surprised asleep, with their heads under their wings. On land, another stratagem is sometimes practised with great success. A large tight hogshead is sunk in the flat marsh, or mud, near the place where ducks are accustomed to feed at low water, and where otherwise there is no shelter; the edges and top are artfully concealed with tufts of long coarse grass and reeds, or sedge. From within this the gunner, unseen and unsuspected, watches his collecting prey, and when a sufficient number offers, sweeps them down with great effect. The mode of catching Wild Ducks, as practised in India,* China,† the island of Ceylon, and some parts of South America,‡ has been often described, and seems, if reliance may be placed on those accounts, only practicable in water of a certain depth. The sportsman covering his head with a hollow wooden vessel or calabash, pierced with holes to see through, wades into the water, keeping only his head above, and thus disguised, moves in among the flock, which take the appearance to be a mere floating calabash, while suddenly pulling them under by the legs, he fastens them to his girdle, and thus takes as many as he can conveniently stow away, without in the least alarming the rest. They are also taken with

* Naval Chron. vol. ii, p. 473.

† Du Halde, Hist. China, vol. ii, p. 142.

‡ Ulloa's Voy. i, p. 53.

snares made of horse hair, or with hooks baited with small pieces of sheep's lights, which floating on the surface, are swallowed by the Ducks, and with them the hooks. They are also approached under cover of a stalking-horse, or a figure formed of thin boards, or other proper materials, and painted so as to represent a horse or ox. But all these methods require much watching, toil, and fatigue, and their success is but trifling when compared with that of the *Decoy* now used both in France and England,* which, from its superiority over every other mode, is well deserving the attention of persons of this country residing in the neighborhood of extensive marshes frequented by Wild Ducks; as, by this method, Mallard and other kinds may be taken by thousands at a time. The following circumstantial account of these decoys, and the manner of taking Wild Ducks in them in England, is extracted from Bewick's History of British Birds, vol. II, p. 294.

“ In the lakes where they resort,” says the correspondent of that ingenious author, “ the most favorite haunts of the fowl are observed: then in the most sequestered part of this haunt, they cut a ditch about four yards across at the entrance, and about fifty or sixty yards in length, decreasing gradually in width from the entrance to the farther end, which is not more than two feet wide. It is of a circular form, but not bending much for the first ten yards. The banks of the lake, for about ten yards on each side of this ditch, or pipe, as it is called, are kept clear from reeds, coarse herbage, &c. in order that the fowl may get on them to sit and dress themselves. Across this ditch, poles on each side, close to the edge of the ditch, are driven into the ground, and the tops bent to each other and tied fast. These poles at the entrance form an arch, from the top of which to the water is about ten feet. This arch is made to decrease in height, as the ditch decreases in width, till the farther end is not more than eighteen

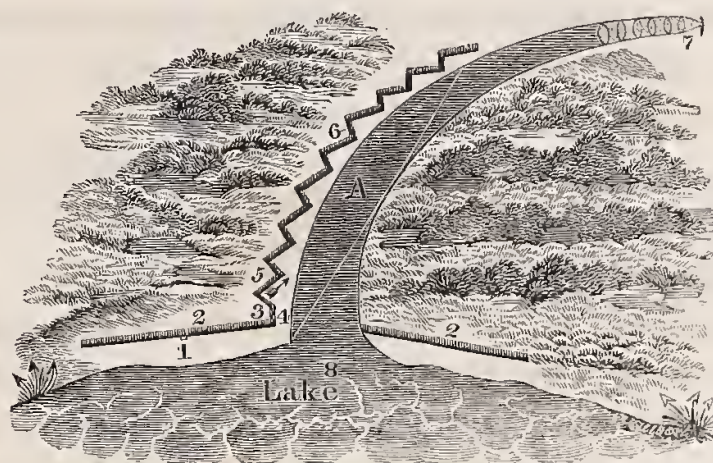
* Particularly in Picardy, in the former country, and Lincolnshire in the latter.

inches in height. The poles are placed about six feet from each other, and connected together by poles laid lengthwise across the arch, and tied together. Over them a net, with meshes sufficiently small to prevent the fowl getting through, is thrown across, and made fast to a reed fence at the entrance, and nine or ten yards up the ditch, and afterwards strongly pegged to the ground. At the farther end of the pipe, a tunnel net, as it is called, is fixed, about four yards in length, of a round form, and kept open by a number of hoops about eighteen inches in diameter, placed at a small distance from each other, to keep it distended. Supposing the circular bend of the pipe to be to the right, when you stand with your back to the lake, on the left hand side a number of reed fences are constructed, called *shootings*, for the purpose of screening from sight the *decoy-man*, and in such a manner, that the fowl in the decoy may not be alarmed, while he is driving those in the pipe : these shootings are about four yards in length, and about six feet high, and are ten in number. They are placed in the following manner :



From the end of the last shooting, a person cannot see the lake, owing to the bend of the pipe : there is then no farther occasion for shelter. Were it not for those shootings, the fowl that remain about the mouth of the pipe would be alarmed, if the person driving the fowl already under the net should be exposed, and would become so shy as to forsake the place entirely. The first thing the decoy-man does when he approaches the pipe, is to take a piece of lighted turf or peat and hold it near his mouth, to prevent the fowl smelling him. He is attended by a dog taught for the purpose of assisting him : he walks very silently about half way up the shootings, where a small piece of wood is thrust through the reed fence, which makes an aperture just sufficient to see if any fowl are in ; if not,

he walks forward to see if any are about the mouth of the pipe. If there are, he stops and makes a motion to his dog, and gives him a piece of cheese or something to eat; upon receiving it he goes directly to a hole through the reed fence, (No. 1.) and the fowl immediately fly off the bank into the water; the dog returns along the bank between the reed fences and the pipe, and comes out to his master at the hole (No. 2.). The man now gives him another reward, and he repeats his round again, till the fowl are attracted by the motions of the dog, and follow him into the mouth of the pipe. This operation is called working them. The man now retreats farther back, working the dog at different holes till the fowl are sufficiently under the net: he now commands his dog to lie down still behind the fence, and goes forward to the end of the pipe next the lake, where he takes off his hat and gives it a



REFERENCES TO THE CUT.

- No. 1. Dog's hole, where he goes to unbank the fowl.
 2. Reed fences on each side of the mouth of the pipe.
 3. Where the decoy-man shows himself to the fowl first, and afterwards at the end of every shooting.
 4. Small reed fence to prevent the fowl seeing the dog when he goes to unbank them.
 5. The shootings.
 6. Dog's holes between the shootings, used when working.
 7. Tunnel net at the end of the pipe.
 8. Mouth of the pipe.

wave between the shooting; all the fowl under the net can see him, but none that are in the lake can. The fowl that are in sight fly forward; and the man runs forward to the next shooting and waves his hat, and so on, driving them along till they come to the tunnel net, where they creep in: when they are all in, he gives the net a twist, so as to prevent their getting back: he then takes the net off from the end of the pipe with what fowl he may have caught, and takes them out one at a time, and dislocates their necks, and hangs the net on again; and all is ready for working again.

“ In this manner five or six dozen have been taken at one drift. When the wind blows directly in or out of the pipe, the fowl seldom work well, especially when it blows in. If many pipes are made in a lake, they should be so constructed as to suit different winds.

“ Duck and Mallard are taken from August to June. Teal or Widgeon, from October to March. Beaks, Smee, Golden Eyes, Arps, Crikes, and Pintails or Sea Pheasants, in March and April.

“ Poker Ducks are seldom taken, on account of their diving and getting back in the pipe.

“ It may be proper to observe here, that the Ducks feed during the night, and that all is ready prepared for this sport in the evening. The better to entice the Ducks into the pipe, hemp seed is strewed occasionally on the water. The season allowed by act of parliament for catching these birds in this way, is from the latter end of October till February.

“ Particular spots or decoys, in the fen countries, are let to the fowlers at a rent of from five to thirty pounds per annum; and Pennant instances a season in which thirty-one thousand two hundred Ducks, including Teals and Widgeons, were sold in London only, from ten of these decoys near Wainfleet, in Lincolnshire. Formerly, according to Willughby, the Ducks, while in moult and unable to fly, were driven by men in boats, furnished

with long poles, with which they splashed the water between long nets, stretched vertically across the pools, in the shape of two sides of a triangle, into lesser nets placed at the point; and in this way, he says, four thousand were taken at one driving in Deeping-Fen; and Latham has quoted an instance of two thousand six hundred and forty-six having been taken in two days, near Spalding in Lincolnshire; but this manner of catching them while in moult is now prohibited."

GADWALL.

ANAS STREPERA.[Plate LXXI.—Fig. 1, *Male.*]

GMEL. *Syst.* I, p. 520, No. 20.—*Ind. Orn.* p. 859, No. 69. *Gen. Syn.* III, p. 515, No. 61.—
 TEMM. *Man. d'Orn.* p. 837.—BEWICK, II, p. 314.—*The Gadwall or Gray*, WILLUGHBY,
 p. 374.—*Le Chipecau*, BRISS. VI, p. 339, 8, pl. 33, fig. 1.—BUFF. IX, p. 187. *Pl. Enl.*
 958.—*Arct. Zool.* II, p. 303, L. *Br. Zool.* No. 288.—PEALE'S *Museum*, No. 2750; *female*, 2751.

THIS beautiful Duck I have met with in very distant parts of the United States, *viz.* on the Seneca lake in New York, about the twentieth of October, and at Louisville on the Ohio, in February. I also shot it near Big-bone Lick in Kentucky. With its particular manners or breeding place, I am altogether unacquainted.

The length of this species is twenty inches, extent thirty-five inches; irides dark hazel; bill two inches long, formed very much like that of the Mallard, and of a brownish black, upper mandible greatly pectinated; crown dusky brown, rest of the upper half of the neck brownish white, both thickly speckled with black; lower part of the neck, and breast, dusky black, elegantly ornamented with large concentric semicircles of white; scapulars waved with lines of white on a dusky ground, but narrower than that of the breast; primaries ash; greater wing-coverts black, and several of the lesser coverts, immediately above, chestnut red, which, with the white speculum, form three broad conspicuous bands on the wing, of chestnut, black, and white; belly dull white; rump and tail-coverts black, glossed with green; tail tapering, pointed, of a pale brown ash, edged with white; flanks dull white, elegantly waved; tertials long, and of a pale brown; legs orange red.



The female I have never seen. Latham describes it as follows: "differs in having the colors on the wings duller, though marked the same as the male; the breast reddish brown spotted with black; the feathers on the neck and back edged with pale red; rump the same instead of black; and those elegant semi-circular lines on the neck and breast wholly wanting."

The flesh of this duck is excellent, and the windpipe of the male is furnished with a large labyrinth.

The Gadwall is very rare in the northern parts of the United States; is said to inhabit England in winter, and various parts of France and Italy; migrates to Sweden, and is found throughout Russia and Siberia.*

It is a very quick diver, so as to make it difficult to be shot; flies also with great rapidity, and utters a note not unlike that of the Mallard, but louder. Is fond of fresh water ponds overgrown with reeds and rushes. Feeds during the day, as well as in the morning and evening.

A male specimen which the Editor shot in East Florida, in the month of February, had its crown of a pale ferruginous, mixed with brown; head and neck yellowish white, barred and mottled with brown; back, outer scapulars, vent and flanks, brown, with pale zigzag lines; some of the inner scapulars reddish and vinaceous brown; upper and under tail-coverts velvet black; legs and feet *yellow ochre*, part of the webs dusky. Weight two pounds.

This species is very rare on the Delaware; but in East Florida it is common. On the fresh water ponds, in the vicinity of the river St. John, the Editor shot many of them; and found them in good condition, and excellent eating.

* Latham.

EIDER DUCK.

ANAS MOLLISSIMA.[Plate LXXI.—Fig. 2, *Male*.]

GMEL. *Syst.* I, p. 514, No. 15.—*Ind. Orn.* p. 845, No. 35. *Gen. Syn.* III, p. 470, No. 29.—*L'Oye à duvet, ou l'Eider*, BRISS. VI, p. 294, pl. 29.—BUFF. IX, p. 103, pl. 6. *Pl. Enl.* 209.—*Great Black and White Duck*, EDW. pl. 98.—BEWICK, II, p. 279.—*Arct. Zool.* No. 480. *Br. Zool.* No. 271.—TEMM. *Man. d'Orn.* p. 848.—WILLUGHBY, p. 362.—SALERNE, p. 415.—PEALE'S *Museum*, No. 2706.

THE Eider Duck has been long celebrated in Europe for the abundance and excellence of its *down*, which for softness, warmth, lightness, and elasticity, surpasses that of all other Ducks. Pennant states that the quantity found in one nest more than filled the crown of a hat; yet weighed no more than three quarters of an ounce; and it is asserted by Salerne that three pounds of this down may be compressed into a space scarce bigger than a man's fist; yet is afterwards so dilatable as to fill a quilt five feet square.

The native regions of the Eider Duck extend from 45° north to the highest latitudes yet discovered, both in Europe and America. Solitary rocky shores and islands are their favorite haunts. Some wandering pairs have been known to breed on the rocky islands beyond Portland in the district of Maine, which is perhaps the most southern extent of their breeding place. In England the Fern Isles, on the coast of Northumberland, are annually visited by a few of these birds, being the only place in South Britain where they are known to breed. They occur again in some of the Western isles of Scotland. Greenland and Iceland abound with them, and here, in particular places, their nests are crowded so close together that a person can scarcely walk without treading on

them. The natives of those countries know the value of the down, and carry on a regular system of plunder both of it, and also of the eggs. The nest is generally formed outwardly of drift grass, dry sea-weed, and such like materials, the inside composed of a large quantity of down plucked from the breast of the female; in this soft elastic bed she deposits five eggs, extremely smooth and glossy, of a pale olive color; they are also warmly covered with the same kind of down. When the whole number is laid, they are taken away by the natives, and also the down with which the nest is lined, together with that which covers the eggs. The female once more strips her breast of the remaining down, and lays a second time; even this, with the eggs, is generally taken away, and it is said that the male in this extremity furnishes the third quantity of down from his own breast; but if the cruel robbery be a third time repeated, they abandon the place altogether. One female, during the whole time of laying, generally gives half a pound of down; and we are told, that in the year 1750, the Iceland Company sold as much of this article as amounted to three thousand seven hundred and forty-five banco dollars, besides what was directly sent to Gluckstadt.* The down from dead birds is little esteemed, having lost its elasticity.

These birds associate together in flocks, generally in deep water, diving for shell-fish, which constitute their principal food. They frequently retire to the rocky shores to rest, particularly on the appearance of an approaching storm. They are numerous on the coast of Labrador; and are occasionally seen in winter as far south as the capes of the Delaware. Their flesh is esteemed by the inhabitants of Greenland; but tastes strongly of fish.

The length of this species is two feet three inches, extent three feet; weight between six and seven pounds; the head is large, and the bill of singular structure, being three inches in

* Letters on Iceland, by Uno Van Troil, p. 146.

length, forked in a remarkable manner, running high up in the forehead, between which the plumage descends nearly to the nostril, the whole of it is of a dull yellowish horn color somewhat dusky in the middle; upper part of the head deep velvet black, divided laterally on the hind-head by a whitish band; cheeks white; sides of the head pale pea green, marked with a narrow line of white dropt from the ear feathers; the plumage of this part of the head, to the throat, is tumid, and looks as if cut off at the end, for immediately below the neck it suddenly narrows, somewhat in the manner of the Buffel-head, enlarging again greatly as it descends, and has a singular hollow between the shoulders behind; the upper part of the neck, the back, scapulars, lesser wing-coverts, and sides of the rump, are pure white; lower part of the breast, belly, and vent, black; tail, primaries and secondaries, brownish black, the tertials curiously curved, falling over the wing; legs short, yellow; webs of the feet dusky.

Latham has given us the following sketch of the gradual progress of the young males to their perfect colors: "In the first year the back is white, and the usual parts, except the crown, black; but the rest of the body is variegated with black and white. In the second year the neck and breast are spotted black and white, and the crown black. In the third the colors are nearly as when in full plumage; but less vivid, and a few spots of black still remaining on the neck; the crown black, and bifid at the back part.

"The young of both sexes are the same, being covered with a kind of hairy down: throat and breast whitish; and a cinereous line from the bill through the eyes to the hind-head."

FEMALE EIDER DUCK.

[Plate LXXI.—Fig. 3.]

BRISS. VI, *pl.* 30. *Pl. Enl.* 208.—PEALE'S *Museum*, No. 2707.

THE difference of color in these two birds is singularly great. The female is considerably less than the male, and the bill does not rise so high in the forehead; the general color is a dark reddish drab, mingled with lighter touches, and every where spotted with black; wings dusky, edged with reddish; the greater coverts, and some of the secondaries, are tipped with white; tail brownish black, lighter than in the male; the plumage in general is centred with bars of black, and broadly bordered with rufous drab; cheeks and space over the eye light drab; belly dusky, obscurely mottled with black; legs and feet as in the male.

Van Troil, in his *Letters on Iceland*, observes respecting this Duck, that “the young ones quit the nest soon after they are hatched, and follow the female, who leads them to the water, where having taken them on her back, she swims with them a few yards, and then dives, and leaves them floating on the water! In this situation they soon learn to take care of themselves, and are seldom afterwards seen on the land; but live among the rocks, and feed on insects and sea-weed.”

Some attempts have been made to domesticate these birds, but hitherto without success.

SMEW, OR WHITE NUN.

MERGUS ALBELLUS.[Plate LXXI.—Fig. 4, *Male.*]

GMEL. *Syst.* I, p. 547, No. 5; *M. minutus*, *Id.* p. 548, No. 6.—*Ind. Orn.* p. 831, No. 6; *Id.* p. 832, No. 7. *Gen. Syn.* III, p. 428, No. 5; *Minute Merganser*, *Id.* p. 429.—*Le petit Harle hupé, ou la Piette*, BRISS. VI, p. 243, 3, pl. 24, fig. 1, 2; *L'Harle étoilé*, *Id.* p. 252, young male.—BUFF. VIII, p. 275, pl. 24; *Id.* p. 278. *Pl. Enl.* 449; 450, female.—BEWICK, II, p. 238.—*Arct. Zool.* No. 468. *Br. Zool.* No. 262, 263.—*Harle Piette*, TEMM. *Man. d'Orn.* p. 887.—PEALE'S *Museum*, No. 2944, a specimen from Europe.

THIS is another of those Mergansers commonly known in this country by the appellation of Fishermen, Fisher Ducks, or Divers. The present species is much more common on the coast of New England than farther to the south. On the shores of New Jersey it is very seldom met with. It is an admirable diver, and can continue for a long time under water. Its food is small fry, shell-fish, shrimps, &c. In England, as with us, the Smew is seen only during winter; it is also found in France, in some parts of which it is called *la Piette*, as in parts of England it is named the Magpie Diver. Its breeding place is doubtless in the Arctic regions, as it frequents Iceland; and has been observed to migrate with other Mergansers, and several kinds of Ducks, up the river Wolga in February.*

The Smew or White Nun is nineteen inches in length, and two feet three inches in extent; bill black, formed very much like that of the Red-breasted M., but not so strongly toothed; irides dark; head erected; crown white, hind-head black, round the area of the eye a large oval space of black; whole neck, breast

* Dec. Russ. II, p. 145.

and belly, white, marked on the upper and lower part of the breast with a curving line of black; back black; scapulars white, crossed with several faint dusky bars; shoulder of the wing and primaries black, secondaries and greater coverts black broadly tipped with white; across the lesser coverts a large band of white; sides and flanks crossed with waving lines; tail dark ash; legs and feet pale bluish slate.

The female is considerably less than the male; the bill a dark lead color; crest of the same peculiar form as that of the male, but less, and of a reddish brown; marked round the area of the eyes with dusky; cheeks, forepart of the neck, and belly, white; round the middle of the neck a collar of pale brown; breast and shoulders dull brown and whitish intermixed; wings and back marked like those of the male, but of a deep brownish ash in those parts which in him are black; legs and feet pale blue. The young birds, as in the other three species, strongly resemble the female during the first and part of the second year. As these changes of color, from the garb of the female to that of the male, take place in the remote regions of the north, we have not the opportunity of detecting them in their gradual progress to full plumage. Hence, as both males and females have been found in the same dress, some writers have considered them as a separate species from the Smew, and have given to them the title of the Red-headed Smew.

In the ponds of New England, and some of the lakes in the state of New York, where the Smew is frequently observed, these red-headed kind are often found in company, and more numerous than the other, for very obvious reasons; and bear, in the markings, though not in the colors, of their plumage, evident proof of their being the same species, but younger birds or females. The male, like the Muscovy Drake, and many others, when arrived at his full size, is nearly one third heavier than the female; and this disproportion of weight, and difference of color, in the full grown males and females, are characteristic of the whole genus.

RUDDY DUCK.

ANAS JAMAICENSIS.

[Plate LXXI.—Fig. 5, *Adult Male*.—Fig. 6, *Young Male*.*]

GMEL. *Syst.* I, p. 519, No. 83.—LATH. *Ind. Orn.* p. 857, No. 63. *Jamaica Shoveller*, *Gen. Syn.* III, p. 513.—PEALE'S *Museum*, No. 2808 ; *female*, No. 2809.

IN the first edition of this work the author states that the two Ducks of this species figured in the plate, as male and female, were the only individuals that he had ever met with. They had been shot on the river Delaware ; and were deposited in Peale's Museum. "On comparing this Duck," he observes, "with the description given by Latham of the *Jamaica Shoveller*, I was at first inclined to believe I had found out the species ; but a more careful examination of both satisfied me that they cannot be the same, as the present differs considerably in color ; and besides has some peculiarities which the eye of that acute ornithologist could not possibly have overlooked, in his examination of the species said to have been received by him from Jamaica. Wherever the general residence of this species may be, in this part of the world, at least, it is extremely rare, since among the many thousands of Ducks brought to our markets during winter, I have never heard of a single individual of the present kind having been found among them."

It is a circumstance in ornithology well worthy of note, that migratory birds frequently change their route, and, consequently, become common in those districts where they had been either unknown, or considered very rare. Of the *Sylvia magnolia*, Wilson declares that he had seen but two individuals, and these in the

* Named in the plate, by mistake, *Female*.

western country; the *Muscicapa cucullata* he says is seldom observed in Pennsylvania, and the northern states; the *Muscicapa pusilla*, and the *Muscicapa Canadensis*, he considered rare birds with us; notwithstanding, in the month of May, 1815, all of these were seen in our gardens; and the Editor noted the last mentioned as among the most numerous of the passenger birds of that season.

The subject of this chapter affords a case in point. The year subsequent to the death of our author this Duck began to make its appearance in our waters. In October, 1814, the Editor procured a female, which had been killed from a flock, consisting of five, at Wind-mill Island, opposite to Philadelphia. In October, 1818, he shot three individuals, two females and a male; and in April last another male, all of which, except one, were young birds. He has also at various times, since 1814, seen several other male specimens of this species, not one of which was an adult. In effect, the only old males which he has ever seen are that in Peale's Museum, and another in the Cabinet of the Academy of Natural Sciences of Philadelphia.

The Duck figured in the plate as the female was a young male, as the records of the Museum show; the great difference between its colors and markings, and those of the full-plumaged male, having induced the author to conclude it was a female, although he was perfectly familiar with the fact, that the young males of several species of this genus so nearly resemble the other sex, it requires a very accurate eye, aided by much experience, to distinguish them by their external characters. This is precisely the case with the present species; the yearlings, of both sexes, are alike; and it is not until the succeeding spring that those characters appear in the males which enable one to indicate them, independent on dissection.

The opinion of our author that this species is not the Jamaica Shoveller of Latham the Editor cannot subscribe to, it appearing

to him that the specimen from which Latham took his description was a young male of the Duck now before us. The latter informs us that the species appears in Jamaica in October or November; remains till March; and then retires to the north. This account coincides with ours: we see the bird on its way to the south in October; it reaches Jamaica in November; it departs thence in March, and revisits us, in regular progression, in April. Where its summer residence is we are not informed; and we are equally ignorant whether the species is numerous in any part of our continent or not.

Judging from the descriptions of the Ural Duck of European writers, there should seem to be a great affinity between that and the present. Through the polite attention of Mr. Charles Bonaparte, the Editor was enabled to examine a female specimen of the former; and as he perceived some differences, he will here note them. The bill of the Ural Duck, from the angle of the mouth, is two inches long: that of our Duck is one inch and three quarters, it is also less gibbous at the base than in the former, and it is less depressed above; the tail feathers of the Ural Duck are guttered their whole length: those of the Ruddy Duck are slightly canaliculated at their tips; the lateral membrane of the inner toe of the latter is not half the breadth of that of the former. In other respects the females of the two species much resemble each other. In order to draw a just parallel, it would be necessary to examine a male specimen of the European Bird, which our cabinets do not possess.

The adult male, figured in the plate, is thus described by our author: "Length fifteen inches and a half, extent twenty-two inches; bill broad at the tip, the under mandible much narrower than the upper, and *both* of a rich light blue;* nostrils small, placed in the middle of the bill; cheeks and chin white; front,

* So colored in Peale's specimen; but there is reason to conjecture that the color of the upper mandible alone was a blue ash.

crown, and back part of the neck down nearly to the back, black; rest of the neck, whole back, scapulars, flanks, and tail-coverts, deep reddish brown, the color of bright mahogany; wings pale plain drab, darkest at the points; tail black, greatly tapering, containing eighteen narrow, pointed feathers; the plumage of the breast, and upper part of the neck, is of a remarkable kind, being dusky olive at bottom, ending in hard bristly points of a silvery gray, very much resembling the hair of some kinds of seal-skins—this plumage is thickly marked with transverse curving lines of deep brown; belly and vent silver gray, thickly crossed with dusky olive; under tail-coverts white; legs and feet ash colored.”

The female is fifteen inches in length; bill to the angle of the mouth one inch and three quarters long, its lower half very broad, of a deep dusky olive, the nail resembling a narrow clasp of iron; nostrils oval, with a curved furrow below them; eyes small and dark; the upper part of the head, from the bill to the hind-head, variegated with shining bronze and blackish brown, the latter crossing the head in lines; cheeks white, mixed with dusky, and some touches of bronze; lores drab and dusky, mixed with a small portion of white; neck short and thick, its lower half above, extending between the shoulders, drab, mixed with dusky; throat, and whole lower parts, dusky ash, the plumage tipped with dull white, having a silver gray appearance; the upper parts are dusky, marked or penciled with pale ferruginous, and dull white; breast slightly tinged with reddish brown; the wings are small, greatly concave, and, when closed, are short of the extremities of the tail-coverts about three quarters of an inch—they are dusky, their coverts finely dotted or powdered with white; tail dusky, marked at its extremity with a few very fine dots of reddish white, it extends beyond its upper coverts two inches and a half; under tail-coverts white; legs and feet dusky slate; weight sixteen ounces and a half. The gizzard of the above contained sand and some

small seeds. Her eggs were numerous and tolerably large ; hence, as she was shot in the month of October, it was conjectured that she was a bird of the preeeding year.

The young male, shot in April last, measured fifteen inches in length ; its irides were dark brown ; bill elevated at the base, slightly gibbous, and blue ash, from the nostrils to the tip mixed with dusky, lower mandible yellowish flesh color, marbled with dusky ; crown brown black ; throat and cheeks, as far as the upper angle of the bill, white, stained with bright yellow ochre ; auriculars almost pure white ; the black from the crown surrounded the eyes, and passed round the white of the auriculars ; hind-head black, mixed with ferruginous ; breast and shoulders bright ferruginous ; belly ash and silver white ; back and seapulars liver brown, finely penciled with gray and reddish white ; rump and upper tail-coverts the same ground color, but the markings not so distinct ; wings light liver brown, the lesser coverts finely powdered with gray ; on the back and scapulars, the flanks, and around the base of the neck, the brownish red or bright mahogany colored plumage, which distinguishes the adult male, was coming out ; inner webs of the tail partly dusky, outer webs, for two thirds of their length, and the tip, dirty ferruginous ; legs blue ash in front, behind, the toes and webs, dusky. When the tail is not spread, it is somewhat conical, and its narrow, pointed feathers, are slightly guttered at their tips ; when spread, it is wedge-shaped. The trachea is of nearly equal diameter throughout ; and has no labyrinth or enlargement at its lower part.

Another young male, shot in October, measured fifteen and a quarter inches in length, and twenty-three inches in breadth ; bill greenish black, lower mandible yellowish flesh color, mixed with dusky ; from the bill to the hind-head a deep liver brown, the tips of the plumage bronzed ; whole upper parts dark umber brown, penciled with pale ferruginous, buff and white ; from the corner of

the mouth a brown marking extended towards the eye ; tail dusky, ash colored at its extremity ; legs and feet dusky ash, toes paler, having a yellowish tinge, webs dusky, claws sharp.

The shafts of the tail feathers of all these specimens, except that shot in April, projected beyond the webs; in one specimen the shaft of one of the middle feathers projected an inch, and was ramified into rigid bristles, resembling those of the tail of Buffon's *Sarcelle à queue épineuse de Cayenne*, Pl. Enl. 967; in all the specimens there was the appearance of the tail feathers having been furnished with the like process, but which had been rubbed off. Can it be that this Duck makes use of its tail in climbing up the fissures of rocks, or the hollows of trees? Its stiff, narrow feathers, not unlike those of the tail of a Woodpecker, would favor this supposition. It is worthy of note that the tail of Mr. Bonaparte's female specimen, alluded to above, is thus rubbed.

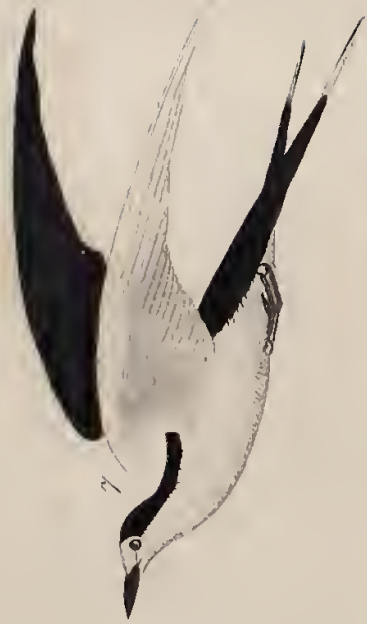
The plumage of the neck and breast, which Wilson says is of a remarkable kind, that is, stiff and bristly at the tips, is common to several Ducks, and therefore is no peculiarity.

The body of this species is broad, flat and compact; its wings short and concave; its legs placed far behind; and its feet uncommonly large; it consequently is an expert diver. It flies with the swiftness, and in the manner, of the Buffel-head; and it swims precisely as Latham reports the Ural Duck to swim, with the tail immersed in the water as far as the rump; but whether it swims thus low with the view of employing its tail as a rudder, as Latham asserts of the Ural, or merely to conceal itself from observation, as the Scaup Duck is wont to do when wounded, and as all the Divers do when pursued, I cannot determine.

This is a solitary bird; and with us we never see more than five or six together, and then always apart from other Ducks. It is uncommonly tame, so much so, that, by means of my skiff, I have never experienced any difficulty in approaching within a few

yards of it. Its flesh I do not consider superior to that of the Buff-head, which, with us, is a Duck not highly esteemed.

I should not be surprised if Buffon's *Sarcelle à queue épineuse de Cayenne* should turn out to be this species. The characters of the two certainly approximate; but as I have not been enabled to settle the question of their identity in my own mind, I shall, for the present, let the affair rest.



Drawn from Nature by J. Wilson

1. Brant

2. Lesser Duck

3. Wild Duck

4. Herring Gull

5. Dusky Duck

6. Wood Duck

7. Turkey

8. Canada Goose

BRANT.

ANAS BERNICLA.[Plate LXXII.—Fig. 1, *Male.*]

GMEL. *Syst.* I, p. 513, No. 13.—*Ind. Orn.* p. 844, No. 32. *Brent*, *Gen. Syn.* III, p. 467, No. 27.—*Le Cravant*, BRISS. VI, p. 304, 16, pl. 31.—BUFF. IX, p. 87. *Pl. Enl.* 342.—BEWICK, II, p. 277.—*Arct. Zool.* No. 478. *Br. Zool.* No. 270.—WILLUGHBY, p. 360.—*Oie Cravant*, TEMM. *Man. d'Orn.* p. 824.—CUV. *Règ. An.* I, p. 531.—PEALE'S *Museum*, No. 2704.

THE Brant, or, as it is usually written, *Brent*, is a bird well known on both continents, and celebrated in former times throughout Europe for the singularity of its origin; and the strange transformations it was supposed to undergo previous to its complete organization. Its first appearance was said to be in the form of a barnacle-shell adhering to old water-soaked logs, trees, or other pieces of wood taken from the sea. Of this *Goose-bearing tree* Gerard, in his *Herbal*, published in 1597, has given a formal account, and seems to have reserved it for the conclusion of his work, as being the most wonderful of all he had to describe. The honest naturalist however, though his belief was fixed, acknowledges that his own personal information was derived from certain shells, which adhered to a rotten tree that he dragged out of the sea between Dover and Romney in England; in some of which he found “living things without forme or shape; in others which were nearer come to ripeness, living things that were very naked, in shape like a birde; in others the birds covered with soft downe, the shell half open and the birde readie to fall out, which no doubt were the foules called Barnakles.”* Ridiculous and chimerical as this

* See Gerard's *Herbal*, Art. *Goose-bearing Tree*.

notion was, it had many advocates, and was at that time as generally believed, and with about as much reason too, as the present opinion of the annual submersion of Swallows, so tenaciously insisted on by some of our philosophers, and which, like the former absurdity, will in its turn disappear before the penetrating radiance and calm investigation of truth.

The Brant and Barnacle Goose, though generally reckoned two different species, I consider to be the same.* Among those large flocks that arrive on our coasts about the beginning of October, individuals frequently occur corresponding in their markings with that called the Barnacle of Europe, that is, in having the upper parts lighter, and the front, cheeks, and chin whitish. These appear evidently a variety of the Brant, probably young birds; what strengthens this last opinion is the fact, that none of them are found so marked on their return northward in the spring.

The Brant is expected at Egg-Harbor, on the coast of New Jersey, about the first of October, and has been sometimes seen as early as the twentieth of September. The first flocks generally remain in the bay a few days, and then pass on to the south. On recommencing their journey, they collect in one large body, and making an extensive spiral course, some miles in diameter, rise to a great height in the air, and then steer for the sea, over which they uniformly travel; often making wide circuits to avoid passing over a projecting point of land. In these aerial routes they have been met with many leagues from shore, travelling the whole night. Their line of march very much resembles that of the Canada Goose, with this exception, that frequently three or four are crowded together in the front, as if striving for precedence. Flocks continue to arrive from the north, and many remain in the bay till

* The ridiculous account of the origin of the Barnacle Goose, extracted from the Herbal of Gerard, we have thought proper to retain for the amusement of the reader; but it is necessary to state, that the opinion of our author, with respect to the identity of the Brant and Barnacle, is erroneous, these birds forming two distinct species.

December, or until the weather becomes very severe, when these also move off southwardly. During their stay they feed on the bars at low water, seldom or never in the marshes; their principal food being a remarkably long and broad-leaved marine plant, of a bright green color, which adheres to stones, and is called by the country people sea-cabbage; the leaves of this are sometimes eight or ten inches broad by two or three feet in length; they also eat small shell-fish. They wade about feeding at low water. During the time of high water they float in the bay in long lines, particularly in calm weather. Their voice is hoarse and honking, and when some hundreds are screaming together, reminds one of a pack of hounds in full cry. They often quarrel among themselves, and with the Ducks, driving the latter off their feeding ground. Though it never dives in search of food, yet when wing-broken the Brant will go one hundred yards at a stretch under water; and is considered, in such circumstances, one of the most difficult birds to kill. About the fifteenth or twentieth of May they re-appear on their way north; but seldom stop long, unless driven in by tempestuous weather.

The breeding place of the Brant is supposed to be very far to the north. They are common at Hudson's bay; very numerous in winter on the coasts of Holland and Ireland; are called in Shetland Harra Geese, from their frequenting the sound of that name; they also visit the coast of England. Buffon relates, that in the severe winters of 1740 and 1765, during the prevalence of a strong north wind, the Brant visited the coast of Picardy in France, in prodigious multitudes, and committed great depredations on the corn, tearing it up by the roots, trampling and devouring it; and notwithstanding the exertions of the inhabitants, who were constantly employed in destroying them, they continued in great force until a change of weather carried them off.

The Brant generally weighs about four pounds avoirdupois, and measures two feet in length, and three feet six inches in ex-

tent; the bill is about an inch and a half long, and black; the nostril large, placed nearly in its middle; head, neck, and breast, black, the neck marked with a spot of white, about two inches below the eye; belly pale ash edged with white; from the thighs backwards white; back and wing-coverts dusky brownish black, the plumage lightest at the tips; rump and middle of the tail-coverts black, the rest of the tail-coverts pure white, reaching nearly to the tip of the tail, the whole of which is black, but usually concealed by the white coverts; primaries and secondaries deep black; legs also black; irides dark hazel.

The only material difference observable between the plumage of the male and female, is, that in the latter the white spot on the neck is less, and more mottled with dusky. In young birds it is sometimes wanting, or occurs on the front, cheeks and chin; and sometimes the upper part of the neck, only, is black;* but in full plumaged birds, of both sexes, the markings are very much alike.

This species is often seen in our markets for sale. Its flesh, though esteemed by many, tastes somewhat sedgy, or fishy. On the 28th of May, of the present year, the Editor saw several pairs of Brant, which had been brought from Little Egg-Harbor. They were uncommonly fat. One pair, although deprived of their feathers, weighed eight pounds and a half.

The individual figured in the plate was shot by the Editor at Great Egg-Harbor, on the nineteenth of May, 1813. It had been compelled to land by a storm, which surprised it while travelling to the north. The procuring of this bird was a fortunate occurrence for Mr. Wilson, he having omitted to make a drawing while specimens were to be obtained during their sojourn on our coast. The following day the author and his friend returned home from their last shooting expedition to the seashore; and, on the twenty-third of August, the ingenious and excellent Wilson bade adieu to this world for ever.

* The figure of this bird given by Bewick is in that state.

SCOTER DUCK.

ANAS NIGRA.[Plate LXXII.—Fig. 2, *Male.*]

GMEL. *Syst.* I, p. 508, No. 7.—*Ind. Orn.* p. 848, No. 43. *Gen. Syn.* III, p. 480, No. 36.—*Black Diver or Scoter*, WILLUGHBY, p. 366.—*La Macreuse*, BRISS. VI, p. 420, pl. 38, fig. 2.—BUFF. IX, p. 234, pl. 16. *Pl. Enl.* 978.—BEWICK, II, p. 288.—*Arct. Zool.* No. 484. *Br. Zool.* No. 273.—TEMM. *Man. d'Orn.* p. 856.—CUV. *Règ. An.* I, p. 532.—MONTAGU, *Orn. Dic. et Sup.*—PEALE'S *Museum*, No. 2658; *female*, 2659.

THIS Duck is but little known along our seacoast, being more usually met with in the northern than southern districts; and only during the winter. Its food is shell-fish, for which it is almost perpetually diving. That small bivalve so often mentioned, small mussels, spout-fish, called on the coast *razor handles*, young clams, &c. furnish it with abundant fare; and wherever these are plenty the Scoter is an occasional visitor. They swim, seemingly at ease, amidst the very roughest of the surf; but fly heavily along the surface, and to no great distance. They rarely penetrate far up our rivers, but seem to prefer the neighborhood of the ocean; differing in this respect from the Cormorant, which often makes extensive visits to the interior.

The Scoters are said to appear on the coasts of France in great numbers, to which they are attracted by a certain kind of small bivalve shell-fish called *vaimeaux*, probably differing little from those already mentioned. Over the beds of these shell-fish the fishermen spread their nets, supporting them, horizontally, at the height of two or three feet from the bottom. At the flowing of the tide the Scoters approach in great numbers, diving after their favorite food, and soon get entangled in the nets. Twenty

or thirty dozen have sometimes been taken in a single tide. These are sold to the Roman Catholics, who eat them on those days on which they are forbidden by their religion the use of animal food, fish excepted; these birds, and a few others of the same fishy flavor, having been exempted from the interdict, on the supposition of their being cold blooded, and partaking of the nature of fish.*

The Scoter abounds in Lapland, Norway, Sweden, Russia, and Siberia. It was also found by Osbeck, between the islands of Java and St. Paul, Lat. 30 and 34, in the month of June.†

This species is twenty-one inches in length, and thirty-four in extent, and is easily distinguished from all other Ducks by the peculiar form of its bill, which has at the base a large elevated knob, of a red color, divided by a narrow line of yellow, which spreads over the middle of the upper mandible, reaching nearly to its extremity, the edges and lower mandible are black; the eyelid is yellow, iris dark hazel; the whole plumage is black, inclining to purple on the head and neck; legs and feet reddish.

The female has little or nothing of the knob on the bill; her plumage above a sooty brown, and below of a grayish white.

* Bewick.

† Voy. I, p. 120.

VELVET DUCK.

ANAS FUSCA.[Plate LXXII.—Fig. 3, *Male.*]

GMEL. *Syst.* I, p. 507, No. 6.—*Ind. Orn.* p. 848, No. 44. *Gen. Syn.* III, p. 482, No. 37.—*La grande Macreuse*, BRISS. VI, p. 423, 29.—*La double Macreuse*, BUFF. IX, p. 242. *Pl. Enl.* 956.—*Arct. Zool.* No. 482. *Br. Zool.* No. 272, pl. 96, male and female.—BEWICK, II, p. 286.—MONTAGU, *Orn. Dic.*—*Canard double Macreuse*, TEMM. *Man. d'Orn.* p. 854.—CUV. *Règ. An.* I, p. 533.—PEALE'S *Museum*, No. 2658, female.

THIS and the preceding are frequently confounded together, as one and the same species, by our gunners on the seacoast. The present, however, differs in being of greater size ; in having a broad band of white across the wing ; a spot of the same under the eye ; and in the structure of its bill. The habits of both are very much alike ; they visit us only during the winter ; feed entirely on shell-fish, which they procure by diving ; and return to the northern regions early in spring to breed. They often associate with the Scoters, and are taken frequently in the same nets with them. Owing to the rank fishy flavor of its flesh, it is seldom sought after by our sportsmen, and is very little esteemed.

The Velvet Duck measures twenty-three inches in length, and two feet nine inches in extent, and weighs more than three pounds ; the bill is broad, a little elevated at the base, where it is black, the rest red, except the lower mandible, which is of a pale yellowish white, both mandibles edged with black, and deeply toothed ; irides pale cream ; under the eye is a small spot of white ; general color of the plumage brownish black, the secondaries excepted, which are white, forming a broad band across the wing ; there are a few reflections of purple on the upper plumage ; the legs are

red on the outside, and deep yellow, sprinkled with blackish, on the inside; tail short and pointed.

The female is very little less than the male; but differs considerably in its markings. The bill is dusky; forehead and cheeks white, under the eye dull brownish; behind that a large oval spot of white; whole upper parts and neck dark brownish drab; tips of the plumage lighter; secondaries white; wing quills deep brown; belly brownish white; tail hoary brown; the throat is white, marked with dusky specks; legs and feet yellow.

Latham informs us that this species is sometimes seen on the coast of England, but is not common there; that it inhabits Denmark and Russia, and in some parts of Siberia is very common. It is also found at Kamtsehatka, where it is said to breed, going far inland to lay; the eggs are eight or ten, and white; the males depart, and leave the females to remain with the young until they are able to fly. In the river Oehotska they are so numerous that a party of natives, consisting of fifty or more, go off in boats and drive these ducks up the river before them, and when the tide ebbs fall on them at once, and knock them on the head with clubs, killing such numbers that each man has twenty or thirty for his share.*

* Hist. Kamtschatka, p. 160.

HARLEQUIN DUCK.

ANAS HISTRIONICA.[Plate LXXII.—Fig. 4, *Male.*]

GMEL. *Syst.* I, p. 534, No. 35; *A. minuta*, *Id.* No. 36, *female*.—*Ind. Orn.* p. 849, No. 45.
Gen. Syn. III, p. 484; p. 485, *female*.—*Dusky and Spotted Duck*, EDWARDS, *pl.* 99;
Little Brown and White Duck, *Id.* *pl.* 157, *female*.—*Le Canard à Collier de Terre-Neuve*,
 BRISS. VI, p. 362, No. 14; *La Sarcelle de la Baye de Hudson*, *Id.* p. 469, No. 41, *female*.
 —BUFF. IX, p. 250; *La Sarcelle brune et blanche*, *Id.* p. 287, *female*. *Pl. Enl.* 798; 799,
female.—*Arct. Zool.* No. 490.—TEMM. *Man. d'Orn.* p. 878.—*Canard Arlequin*, CUV. *Règ.*
An. I, p. 533.

THIS species is very rare on the coasts of the middle and southern states, though not unfrequently found off those of New England, where it is known by the dignified title of the *Lord*, probably from the elegant crescents, and circles of white, which ornament its neck and breast. Though an inhabitant of both continents, little else is known of its particular manners than that it swims and dives well; flies swift, and to a great height; and has a whistling note. Is said to frequent the small rivulets inland from Hudson's bay, where it breeds. The female lays ten white eggs on the grass; the young are prettily speckled. It is found on the eastern continent as far south as lake Baikal, and thence to Kamtschatka, particularly up the river Ochotska; and was also met with at Aoonalashka and Iceland.* At Hudson's bay it is called the Painted Duck, at Newfoundland and along the coast of New England, the Lord; it is an active vigorous diver, and often seen in deep water, considerably out at sea.

* Latham.

The Harlequin Duck, so called from the singularity of its markings, is seventeen inches in length, and twenty-eight inches in extent; the bill is of moderate length, of a lead color tipped with red, irides dark; upper part of the head black; between the eye and bill a broad space of white, extending over the eye, and ending in reddish; behind the ear a similar spot; neck black, ending below in a circle of white; breast deep slate, shoulders or sides of the breast, marked with a semicircle of white; belly black; sides chestnut; body above black or deep slate, some of the scapulars white; greater wing-coverts tipped with the same; legs and feet deep ash; vent and pointed tail black.

The female is described as being less, "the forehead, and between the bill and eye, white, with a spot of the same behind the ear; head, neck, and back, brown, palest on the forepart of the neck; upper part of the breast, and rump, red brown; lower breast and belly barred pale rufous and white; behind the thighs rufous and brown; scapulars and wing-coverts rufous brown; outer greater ones blackish; quills and tail dusky, the last inclining to rufous; legs dusky."*

The few specimens of this Duck which I have met with, were all males; and from the variation in their colors it appears evident that the young birds undergo a considerable change of plumage before they arrive at their full colors. In some the white spot behind the eye was large, extending irregularly half way down the neck; in others confined to a roundish spot.

The flesh of this species is said to be excellent.

* Latham.

BLACK DUCK.*

ANAS OBSCURA.[Plate LXXII.—Fig. 5, *Male.*]

GMEL. *Syst.* I, p. 541, No. 115.—*Ind. Orn.* p. 871, No. 96. *Dusky Duck*, *Gen. Syn.* III, p. 545, 84. *Arct. Zool.* No. 496.—PEALE'S *Museum*, No. 2880 ; *female*, 2889.

THIS species, called by naturalists Dusky Duck, is generally known in Pennsylvania, and along the seacoast of New Jersey, and the neighboring country, by the name of the *Black Duck*, being the most common and most numerous of all those of its tribe that frequent the salt marshes. It is only partially migratory. Numbers of them remain during the summer, and breed in sequestered places in the marsh, or on the sea islands of the beach. The eggs are eight or ten in number, very nearly resembling those of the domestic duck. Vast numbers, however, regularly migrate farther north on the approach of spring. During their residence here in winter they frequent the marshes, and the various creeks and inlets with which those extensive flats are intersected. Their principal food consists of those minute snail-shells so abundant in the marshes. They occasionally visit the sandy beach in search of small bivalves, and on these occasions sometimes cover whole acres with their numbers. They roost at night in the shallow ponds, in the middle of the salt marsh, particularly on islands, where many are caught by the foxes. They are extremely shy during the day ; and on the most distant report of a musket, rise from every quarter of the marsh in prodigious numbers, dispersing in every direction. In calm weather they fly high, beyond the

* Named in the plate *Dusky Duck*.

reach of shot; but when the wind blows hard, and the gunner conceals himself among the salt grass in a place over which they usually fly, they are shot down in great numbers; their flight being then low. Geese, Brant, and Black Ducks are the common game of all our gunners along this part of the coast during winter; but there are at least ten Black Ducks for one Goose or Brant, and probably many more. Their voice resembles that of the Mallard; but their flesh is greatly inferior, owing to the nature of their food. They are, however, large, heavy-bodied Ducks, and generally esteemed.

I cannot discover that this species is found in any of the remote northern parts of our continent; and this is probably the cause why it is altogether unknown in Europe. It is abundant from Virginia to New England; but is not enumerated among the birds of Hudson's bay, or Greenland. In Georgia and Florida it is very rare.* Its chief residence is on the seacoast, though it also makes extensive excursions up the tide waters of our rivers. Like the Mallard they rarely dive for food, but swim and fly with great velocity.

The Dusky or Black Duck is two feet in length, and three feet two inches in extent; the bill is of a dark greenish ash, formed very much like that of the Mallard, and nearly of the same length; irides dark; upper part of the head deep dusky brown, intermixed on the forepart with some small streaks of drab; rest of the head, and greater part of the neck, pale yellow ochre, thickly marked with small streaks of blackish brown; lower part of the neck, and whole lower parts, deep dusky, each feather edged with brownish white, and with fine seams of rusty white; upper parts the same, but rather deeper; the outer vanes of nine of the secondaries bright violet blue, forming the beauty spot, which is

* During a winter spent among the sea islands of Georgia, and in East Florida, the Editor saw but one individual of this Duck: a proof of its rarity.

bounded on all sides by black; wings and tail sooty brown; tail feathers sharp pointed; legs and feet dusky yellow; lining of the wings pure white.

The female has more brown on her plumage; but in other respects differs little from the male, both having the beauty spot on the wing.

Of all our Ducks this species is perhaps the most sagacious, and the most fearful of man. In the neighborhood of Philadelphia they are found in great numbers; they are notwithstanding hard to be obtained, in consequence of their extreme vigilance, and their peculiar habits. During the day they chiefly abandon the marshes; and float in considerable bodies on the Delaware, taking their repose, with the usual precaution of employing wakeful sentinels, to give notice of danger. In the evening they resort to the muddy flats and shores, and occupy themselves throughout the greater part of the night in seeking for food. When searching out their feeding grounds, every individual is on the alert; and on the slightest appearance of an enemy the whole mount and scatter in such a manner, that, in a flock of a hundred, it would be difficult to knock down more than two or three at one shot. Their sense of smelling is uncommonly acute; and their eyesight, if we may judge from their activity at night, must be better than that of most species. When wounded on the water, they will immediately take to the shore, if in the vicinity, and conceal themselves under the first covert, so that one accustomed to this habit can have no difficulty in finding them.

MARSH TERN.

STERNA ARANEA.

[Plate LXXII.—Fig. 6.]

PEALE'S *Museum*, No. 3521.

THIS new species I first met with on the shores of Cape May, particularly over the salt marshes, and darting down after a kind of large black spider, plenty in such places. This spider can travel under water as well as above, and, during summer at least, seems to constitute the principal food of the present Tern. In several which I opened, the stomach was crammed with a mass of these spiders alone; these they frequently pick up from the pools as well as from the grass, dashing down on them in the manner of their tribe. Their voice is sharper and stronger than that of the Common Tern; the bill is differently formed, being shorter, more rounded above, and thicker; the tail is also much shorter, and less forked. They do not associate with the others; but keep in small parties by themselves.

The Marsh Tern is fourteen inches in length, and thirty-four in extent; bill thick, much rounded above, and of a glossy blackness; whole upper part of the head, and hind neck, black; whole upper part of the body hoary white; shafts of the quill and tail feathers pure white; line from the nostril under the eye, and whole lower parts pure white; tail forked, the outer feathers about an inch and three quarters longer than the middle ones; the wings extend upwards of two inches beyond the tail; legs and feet black, hind toe small, straight, and pointed.

The female, as to plumage, differs in nothing from the male. The yearling birds, several of which I met with, have the plumage of the crown white at the surface, but dusky below; so that the boundaries of the black, as it will be in the perfect bird, are clearly defined; through the eye a line of black passes down the neck for about an inch, reaching about a quarter of an inch before it; the bill is not so black as in the others; the legs and feet dull orange, smutted with brown or dusky; tips and edges of the primaries blackish; shafts white.

This species breeds in the salt marshes, the female drops her eggs, generally three or four in number, on the dry drift grass, without the slightest appearance of a nest; they are of a greenish olive, spotted with brown.

A specimen of this Tern has been deposited in the Museum of this city.

M. Temminck having referred this species to the Gull-billed Tern, *S. Anglica*, of Montagu, the Editor was induced to inquire at Peale's Museum for the specimen mentioned above, but he had the mortification to learn that it was not to be found. But having been more fortunate in obtaining access to the original sketch of the Marsh Tern, of the size of nature, he will give his reasons for dissenting from the judgment of M. Temminck. Montagu says that the *Anglica's* bill is not above an inch and a half long; now the bill of our drawing is an inch and seven eighths to the corner of the mouth, and a full inch and a quarter to the plumage of the forehead, consequently of a medium length. As the latter describes the bill of his, so is that of ours, thick, strong, and angulated on the under mandible, like that of a Gull. Temminck gives the length of the tarsus of the *Anglica* as one inch three or four lines; the tarsus of our drawing is one inch and an eighth, English; Montagu states that the legs of his Tern rather exceed two inches in length from the heel to the knee. If these measurements of

the latter be correct, we are led to conclude that our Marsh Tern is specifically distinct from his Gull-billed Tern. However, with our present slender means of information, we do not consider ourselves authorized to change the name.

SOOTY TERN.

STERNA FULIGINOSA.

[Plate LXXII.—Fig. 7.]

GMEL. *Syst.* I, p. 605, No. 11.—*Ind. Orn.* p. 804, No. 4. *Gen. Syn.* III, p. 352, No. 4.—*L'Hirondelle de Mer à grande envergure*, BUFF. VIII, p. 345.—*Egg-bird*, FORST. *Voy.* I, p. 113.—*Noddy*, DAMP. *Voy.* III, p. 142.—*Arct. Zool.* No. 447.—PEALE'S *Museum*, No. 3459.

THIS bird has been long known to navigators, as its appearance at sea usually indicates the vicinity of land; instances, however, have occurred in which they have been met with one hundred leagues from shore.* The species is widely dispersed over the various shores of the ocean. They were seen by Dampier in New Holland; are in prodigious numbers in the Island of Ascension; and in Christmas Island are said to lay, in December, one egg on the ground; the egg is yellowish, with brown and violet spots. In passing along the northern shores of Cuba, and the coast of Florida and Georgia, in the month of July, I observed this species very numerous and noisy, dashing down headlong after small fish. I shot and dissected several, and found their stomachs uniformly filled with fish. I could perceive little or no difference between the colors of the male and female.

Length of the Sooty Tern seventeen inches, extent three feet six inches; bill glossy black, an inch and a half long, sharp pointed, and rounded above, the upper mandible serrated slightly near the point; nostril an oblong slit; irides dusky; forehead as far as the eyes white; whole lower parts, and sides of the neck, pure

* Cook, *Voy.* I, p. 275.

white ; rest of the plumage black ; wings very long and pointed, extending, when shut, nearly to the extremity of the tail, which is greatly forked, and consists of twelve feathers, the two exterior ones four inches longer than those of the middle, the whole of a deep black, except the two outer feathers, which are white, but towards the extremities a little blackish on the inner vanes ; legs and feet black, hind toe short.

The secondary wing feathers are eight inches shorter than the longest primary.

This bird frequently settles on the rigging of ships at sea, and, in common with another species, *S. Stolida*, is called by sailors the Noddy.

END OF THE EIGHTH VOLUME.

Some Interesting Facts Relating Thereto
as Furnished by Naturalist Benj. M.
Everhart

A gentleman of this place, who recently returned from a three days' stay at the far-famed ducking grounds of Havre-de-Grace, Maryland, presented to a representative of the Local News a specimen of an aquatic plant which he called "Wild Celery," and also added, "this vegetable product is the chief food-stuff of the canvas-backed and red-headed duck at Havre-de-Grace. Yes!—three of us in two days shot over two hundred ducks. Canvas-backs were scarce. We secured but three, the remainder being red-heads. As numerous opinions are entertained by sportsmen and others as to the identity of this plant, which is said to be so important an item in the dietary of these two familiar species of ducks, your reporter took occasion to visit our townsman Mr. Benj. M. Everhart, a gentleman whose personal field work and numerous writings have justly earned for him a reputation as one of the foremost botanical authorities in this country.

Mr. Everhart after examining the "Wild Celery" kindly furnished from various sources the following facts relative to the same:

This plant like many others has a variety of local names. Some of the most common which I now call to mind are tape-grass, from the tape-like appearance of the long leaves; channel-weed, as it frequently grows in channels where the water flows, not swiftly; eel-grass; this name arises, it is said by Dr. Darlington (*Flora Costrica*), "from the habit which eels have of hiding under the leaves which are usually procumbently floating under the water's surface." The appellation "Wild Celery"—a local term applied, I think, only by gunners and watermen at Havre-de-Grace and vicinity—is, I consider, like many vulgar synonyms, a misnomer, as this plant is in no particular related to celery, which by botanists is known as *Apium*. "Wild Celery," or as it is more generally known in this vicinity as "eel grass," is not confined to the region from which your specimen was obtained. It is found in the Brandywine creek growing in slow running water.

The scientific name of the plant is *Vallisneria spiralis* (Linn.), the generic name being given in honor of *Antonio Vallisneri*, an Italian botanist; the specific *spiralis* is applied in consequence of the fact that the fertile stalk in its development assumes a spiral form. It is a remarkable dioecious, herbaceous plant on account of its mode of fertilization. It grows entirely under water, has long radical grass-like leaves, from 1 to 3 feet long and from $\frac{1}{4}$ to $\frac{3}{4}$ inch wide. The female flowers float on the surface at the end of long thread-like spiral scapes, which curiously contract and lengthen with the rise and fall of the water. The male flowers have very short stems or scapes, from which the flowers break off, and rise to the surface, to fertilize with their pollen the attached, floating female flowers.

The leaves of this plant form an exceedingly beautiful object for microscopic study, the extreme tenuity and transparency of their cellular tissue allowing the observer to watch the movement of the fluid contents of the cells.

CANVAS-BACKED DUCKS.

Audubon, writing of the food of the canvas-back duck, says: "It varies according to the season and locality. The plant *Vallisneria*, on which it is said to feed when on the head waters of the Chesapeake, is not found equally abundant in other parts and even there is at times so reduced in quantity that this duck and several other species which are equally fond of it are obliged to have recourse to fishes, tadpoles, water-lizards, leeches, snails and mollusca, as well as such seeds as they can meet with, all of which have been in greater or less quantity found in their stomach."

Wilson, referring to the canvas-back ducks, says: "They are found in that part of fresh tide water where a certain grass-like plant grows, on the roots of which they feed. * * * The shores are lined with large quantities of it torn up by the ducks and drifted up by the winds, lying like hay in wind-rows. On the arrival of these birds near Havre-de-Grace they are generally lean, but such is the abundance of their favorite food that towards the beginning of November they are in pretty good order. They dive after the grass, tear it up and eat only the roots. In the severe winter of 1779-80 the *Vallisneria* was almost wholly destroyed in James River. In the month of January the wind continued to blow from west-northwest for twenty-one days, which caused such low tides in the river that the duck grass froze to the ice everywhere, and a thaw coming on suddenly the whole was raised by the roots and carried off by the freshet. The next winter a few of these ducks were seen, but they soon went away again, and for many years after they continued to be scarce.

THE RED-HEADED DUCK.

Wilson says this species is a common associate of the Canvas-back, frequenting the same places and feeding on the stems of the wild celery.

Audubon in his writings on the Red-headed duck states: "I have found their stomach crammed with young tadpoles and small water-lizards, as well as blades of the grasses growing around the banks. Nay, on several occasions, I have found pretty large acorns and hick-nuts in their throats, as well as snails, entire or broken, and fragments of the shells of various small mussels, together with much gravel."

B. H. K.

